Inside this Issue:

Next ABACC Meeting Wednesday 26th of March 2025 at: Erina Trust Community Hall, 27 Karalta Road, Erina. Commencing 7pm Beginning in bees' session commences at 6pm.

Contributions for newsletter: Please send any stories, ideas or anything you wish to share to the editor to the below email address.

Email Address:
secretary@centralcoastbees.org

WELCOME TO THE MARCH 2025 NEWSLETTER!

Hello Everyone!!

*Well, I hope 2025 has been kind to you so far, as the year just seems to **bee** flying by! We are all busy with our lives, but hopefully you will be able to find some time to learn some more exciting bee related information in this month's newsletter.*

There is some great information for our new beekeepers on Queen cells; to try and reduce the possible anxiety this may cause them, when they are just starting out with their beekeeping journey. Also, one of the other challenging parts of beekeeping is lighting our smoker and keeping it going! We will try and give you some advice on this, including some links to videos you can watch!

There are more native bee related articles, including one on the awesome Blue Banded Bee and how to build your own native bee hotel to put in your garden and help these little beauties out. A great holiday project for yourself and the children or grandchildren!

We continue with our " Who am I " section, so members can learn a little more about our committee members and their beekeeping journey.

We'll look at SAC brood and Deformed Wing Virus in our disease profile this month, so it may help you to identify and act early, if found in your hive. Also there are some good beekeeping principles to try and prevent it occurring at all.

All of this and more!

*Don't forget that **I would love any input or suggestions** for future newsletters. If you have a great story or photo, passionate about a beekeeping related subject you would like covered or just have a great recipe to share, then PLEASE send it to the secretary email and it will be featured in the next newsletter.*

So, sit back, with a cuppa or a cool relaxing beverage and catch up on a great read!

Sherrie Smith (Editor)

PRESIDENTS REPORT

Hi All and welcome to a new year of beekeeping!

I hope you all had a healthy and happy Christmas and New Year. How has your beekeeping been over the holiday period? I hope you have all been able to harvest and collect some delicious honey.

It will be interesting to hear how mite loads are going in your apiaries and whether you have had any issues with small hive beetle.

Our first meeting for the year saw over 60 people attend and listen to Mike Allerton from the ABA, give a presentation on small hive beetle and a varroa mite update. We also had around 16 new members and visitors attend our" beginning in bees" session, which shows there is still a great interest in bees and beekeeping.

Sherrie has been busy writing and collating articles for this month's newsletter. It is a bumper edition, and I hope you enjoy reading it!

Hart Peters (President)

Changes to recommended varroa mite threshold treatment levels, 1st March 2025!

Coinciding with the start of autumn, as of the 1st of March, through until the 30th of November, best practice recommendations suggest beekeepers treat their hives if 5 or more mites are found after undertaking a surveillance action sample of 300 bees (per hive).

Importantly, beekeepers should only treat their hives once the above mite threshold levels are met. Treating prematurely, or before mite threshold numbers have been reached, can waste time and money, have negative long-term impacts on hive health and cause mites to build resistance.

NSW Department of Primary Industries and Regional Development, 28th February 2025.

APIARIST REPORT

Hi Members,

This year is still proving to be a learning curve with managing Varroa Mite. Some areas are reporting the numbers of varroa mites are increasing in some treated hives, quicker than others, within the same apiary!

We have to ***bee*** diligent with our varroa mite surveillance by testing more regularly and treat accordingly. The correct way to treat your hive, is your way, with your bees! There is a lot of gibberish out there on Facebook and other bee-related websites.

The frame and box building workshop held on the 2nd of February went well, with good attendance from new members of the club. They were quick to learn the old adage of, ask 10 beekeepers one question and get 12 different answers.

The Honey Extraction workshop was also a great success on Sunday the 23rd of February. After a quick weigh in, the club now holds 154 kg of honey, so it looks good for the Gosford Show which will be held on the 3rd and 4th of May. Some of this will be used to make creamed honey, which we will demonstrate at the March club meeting .

Unfortunately, on a less positive note, during our routine inspection at the club apiary, hive 5 was found to have a few bees, with what appeared to be bent wings. A couple of samples have been collected and are off to the Lab for testing. Hopefully this is a symptom of varroa feeding on the bees and not the possible Deformed Wing Virus (DWV). We will post any results when we get them back.

Again, Happy Beekeeping !

Michael Graham (Apiary Officer)

Varroa Mite Management Update:

In NSW and areas where Varroa mite is established, it's recommended that beekeepers undertake a surveillance action and monitor for mite levels at least once a month (except during chemical treatment or winter in cold climates).

NSW Department of Primary Industries and Regional Development, 14th February 2025.

WAYNE LOGAN

Role in the club: ABACC Club Vice President
Suburb I live in: San Remo
Member of the club: December 2020

My beekeeping journey:

I moved to San Remo from Sydney in the early 1970's. I have worked in the Royal Australian Navy, Naval Police, Corrective Services, Court Escort Security Unit, had my own business and the NSW Rural Fire Service.

I got into beekeeping just over 3 years ago as I needed a new interest outside of firefighting. To be honest I don't know how or why I got the interest in beekeeping, as I didn't know any beekeepers before "I got the bug".

Before Varroa, my apiary had grown to 10 colonies of European Honeybees. I currently have 4 colonies of honeybees and 2 colonies of Native Bees. Unfortunately, my health concerns have forced me to limit the number of hives in my apiary, as it is not located at my residence. Hopefully my recent hip surgery will be successful in allowing me to return to some sort of normal life without pain, as I love beekeeping and what these tiny insects do in our ecosystem. There isn't a day when you're beekeeping, that you don't see, hear or learn something new. You hear so many varied ideas from other beekeepers, either in person or on-line.

I decided to throw my hat in the ring this year and take on the role of the ABACC Club Vice President. I did this in an attempt, to help our club members grow in numbers, but also in hope of learning how other members maintain their apiaries and pass on my beekeeping knowledge to them. Hopefully in my position as Vice President, I can help the club to continue to grow in the future. Whether this is by attending schools or other public events and sharing my beekeeping knowledge and helping with beekeeping displays.

I've been married for 33 years, and my dream is to live on a small acreage. My eldest son has recently got married and has moved out of home. My youngest son is 24 and is 'non-verbal on the autism spectrum. I have 2 grand-daughters and 1 grandson, and I hope I can convince them to also get an interest in beekeeping as they get older.

I would like to support more residents from the northern end of the Central Coast, become interested in beekeeping, by raising awareness and public interest in keeping bees.

I have thoroughly enjoyed my beekeeping journey thus far and hope to learn more. I hope to support not only other club members by being on the club committee, but also to help spread our knowledge of beekeeping, to the general public.

I will continue to enjoy my hobbies of Beekeeping & V8 supercars. I keep a simple life, but who knows what the future holds!

Thank you, Wayne, for sharing your beekeeping journey!

A BEEKEEPER'S SMOKER

Why do beekeepers use smoke on bees?

Smoke Overpowers Pheromones

When beekeepers open a hive, the guard bees secrete alarm pheromones (isopentyl acetate and 2-heptanone) to alert the stingers and worker bees of an intrusion into their bee colonies. However, the smoke overpowers the pheromone and interferes with the bees' sense of smell. Thus, the bees cannot communicate and prepare for an attack against the intruder; instead, they opt for a survival mode.

The smoke fools the worker bees into perceiving a fire threat that might destroy their home; therefore, the bees assume they must leave their home and find a new one. In preparation to leave, the bees will store as much honey as possible to start a new home, in their stomachs. It overwhelms their abdomens with honey which pacifies their sting ability. Using **cool smoke** on bees, is a safe way to calm them and try to prevent bee stings.

Typical hive smoker designs

BeeSmoker Electric Fan

Smokers contain three primary parts:

1. Bellow – controls the level of oxygen in the smoker and puffs the smoke out
2. Nozzle – the tip from which smoke is puffed out
3. Fire Chamber – the area in which burlap, pine needles, wood pellets, twigs, or cardboard smoulders create smoke

What fuels can I use in my smoker?

Smoker Fuels to use

- ✓ Pine needles
- ✓ Dried grass
- ✓ Gum leaves
- ✓ Hessian
- ✓ Compressed wood chip pellets (available online)

Smoker Fuels NOT to use

- ✗ Any petroleum based fuels such as heat beads, petrol/oil soaked rags
- ✗ Camphor laurel leaves
- ✗ Synthetic textiles such as Nylon, polyester etc
- ✗ Heavily inked paper (magazine paper)

You should avoid using synthetic materials or bleached paper that enrage the bees. The same applies to using fuels with chemical odors as they can harm the bees, including yourself, by inhaling toxic compounds.

What is Cool smoke?

Cool smoke, sometimes called quality smoke, is smoke from a smouldering fire. This smoke is usually white or light grey and thick. The best smoke for bees should be cool enough that you can direct it onto your bare wrist without discomfort. It will feel warm but not burning hot.

Below are 2 video links on how to light a smoker:

The Urban Bee Co-How to light your smoker - beekeeping for beginners Australia

Flow Hive- How to light your smoker - Flow Hive AU

How to smoke frames correctly

When you approach your hive for an inspection, you should take your well-lit smoker (with cool smoke) and puff a few puffs of smoke in the hive entrance, then lift the hive lid slightly, and puff a few times before lowering the lid back into place. You need to give the bees time (30-60 seconds) to communicate with one another.
Slowly lift the lid off to commence your inspection.
The cool smoke covers the defensive pheromone
If you over smoke they will start to consume stores, then prepare to abscond from the hive, as they may believe the smoke is a threat of a bush fire.

When you smoke bees, try to smoke up wind so the smoke will naturally waft over the frames. You will need much less smoke if you use this technique. Be careful not to over smoke the hive because you can hinder the queen's laying ability for a period of time and bees will consume too much honey.

Beekeeping during bushfire periods

Use of Smokers in NSW

Beekeepers should use extreme caution when using a smoker at all times. In times of a **Total Fire Ban** you should avoid the use of smokers except in emergency situations. Bee smokers are exempt from a Total Fire Ban only if they are used under very strict conditions including only lighting the smoker in a safe location. These are outlined in the NSW Rural Fire Service schedule of exemptions (See extract below from November 2019):

Bee hive smokers

Fire lit, maintained or used in connection with the management of bees and bee hives, provided that:

- the fire is lit, maintained and used in a bee hive smoker that is commercially available, made of metal and designed to prevent the escape of fire, and
- the fuel for the bee hive smoker is lit inside a building or vehicle by a responsible adult person and the smoker is sealed prior to leaving the building or vehicle and being taken to the hives, and
- fire is not permitted to escape from the bee hive smoker, and
- the bee hive smoker is under the supervision of a responsible adult person at all times while it is alight, and
- the fuel for the bee hive smoker is totally extinguished inside a building or vehicle by the responsible adult person at the completion of use of the smoker.

In addition to these mandatory precautions, having water or a fire extinguisher close to hand is critical in case sparks escape from the smoker. Further advice on the safe use of smokers is available on the Professional Beekeepers community of practice website.

References : 1. honeybeehobbyist
2. The urban Bee Co
3. Beewise
4. Golden Bee Apiaries

Written by Max Rae and Sherrie Smith

To many inexperienced beekeepers, the sight of queen cells can instill a range of emotions from ecstatic joy to absolute panic. The appearance of one or more queen cells is a sure sign that a significant event is about to take place. Learning to tell the difference between the different types of queen cells gives us a better chance of diagnosing the real situation in the hive and a clearer idea of how best to respond to the situation.

Swarm Cells

As the name suggests, the colony is producing new queens in preparation for swarming. In this situation, the bees have determined that there is insufficient space available in their present accommodation and it is time for some of the colony to find a new home. This is a normal and an integral part of the life of a bee colony.

Swarm cells are long and normally found hanging on the bottom edges of the combs. Occasionally the cells will be on the lower side face of the combs, often where the comb is damaged or recessed. Normally we expect to see 5 to 10 swarm cells. Any more can be an indication that the queen has swarming traits. In this scenario the hive will continue to swarm until it ultimately depletes its numbers and cannot survive. Multiple swarms are not desirable in an urban environment and the beekeeper should consider replacing the queen.

When a hive swarms the old queen will leave the hive with around half of the worker bees. Swarming normally happens from around day 8 in the development of the new queen cells. This is when the swarm cells are capped, and the larvae pupate, ready to hatch as virgin queens on day 16. Before swarming, each bee will fill their honey sack with honey in preparation for their flight and to make new wax comb, when they finally arrive in their new home.

Once the colony has decided to swarm, simply destroying the swarm cells will not prevent the hive swarming. They will continue to make swarm cells until either there are no suitable larvae from which to make new queens or the beekeeper intervenes.

One solution to this situation is to split the hive. To do this you take the old queen, 2-3 frames of brood and bees and 2 frames of honey and pollen and placing them in a nucleus box. The Nuc needs to be moved at least 3 kilometres from the parent hive. The removal of the queen and associated bees and frames sends a message to the remaining bees that the hive has swarmed, and they can prepare for the hatching of their new queen.

Once a hive has swarmed or been split, both the original hive and Nuc should be left for a minimum of two weeks before inspection. When inspecting, we are looking for eggs and young brood -- sure evidence that the queen is laying, and the colony is now **‘queen right’**. If we do not see eggs or young brood, we may need to consider installing a new queen. But do not be in a hurry. Wait another week and see what develops.

Supersedure Cells

Supersedure queen cells also hang vertically but are located anywhere on the face of the comb. They may be singular but are normally in groups of 2 or 3. These cells indicate the intention of the colony to replace their existing queen. She may be old or damaged; missing a leg or wing or just not preforming as the colony would like.

Normally the bees will leave the old queen in the hive until the new virgin queen has hatched, taken her mating flight and settled into her routine of laying. Mother and daughter can co-exist in the hive for some time, but eventually the old queen will disappear from the hive.

When supersedure cells are found in the hive, the beekeeper is advised to leave well enough alone and hope for a successful outcome. Inspect the hive in 2-3 weeks looking for eggs and larvae, a sure sign that a laying queen is present in the hive. If you do not see eggs and larvae, the hive may have become **queenless**. In this situation you may need to install a new queen in order to save the hive.

Emergency Queen Cells

A colony produces emergency queen cells when there is the sudden loss of their queen. The queen may have died of natural causes. Perhaps the beekeeper unintentionally killed her during a hive inspection. Maybe she was accidently dropped on the ground outside the hive and was not able to return.

This is indeed an emergency for the hive. They have a window of 3-5 days after the queen last laid eggs in which to develop her replacement in a designated supersedure cup.

After this window of time there will be no larvae young enough to make a supersedure queen. In this situation the bees need to work with the existing worker larvae, in a horizontal worker cell. Nurse bees will change from feeding the larvae with worker jelly or beebread, to feeding them royal jelly. They will also extend the cell to allow for the larger queen to develop.

As the larvae were intended to be a worker and initially fed worker jelly by the nurse bees, these queens, developed in this way, are usually inferior in size and egg producing capacity. Their progeny will also be less than ideal. Even if the emergency queen hatches and mates successfully, the hive will often commence a supersedure process once the emergency queen has started to lay eggs. The reign of emergency queens is usually quite short.

Developing queen cells are one of the many indicators we can use to help diagnose the health and wellbeing of our hives. It is worth reading up on this important topic and making ourselves very familiar with the processes that provide this most important member of our colonies.

Written By Max Rae

What is a Withholding Period?

17 DECEMBER 2024

Guidelines for Beekeepers AHBIC recommends the details listed in our Varroa Chemical Treatment Table are read in conjunction with this article, especially the requirement for each of the current range [...]

Guidelines for Beekeepers

AHBIC recommends the details listed in our Varroa Chemical Treatment Table are read in conjunction with this article, especially the requirement for each of the current range of chemicals clearly noting if honey supers are permitted to be on or off while chemicals are being applied to the hive.

A withholding period is the minimum length of time that must elapse between the last application of a varroa treatment and the harvest, sale or use of honey or wax from a hive to which the chemical was applied. Withholding periods (WHPs) are used to ensure compliance with domestic maximum residue limits (MRLs).

These maximum residue limits are set in Australia and overseas markets to ensure that our agricultural products are safe to eat. It is extremely important to ensure withholding periods are adhered to when treating honeybee hives for varroa .

A **withholding period**, in relation to the use of a permitted or registered product, means **the minimum period that needs to pass between:**

(a) the last use of the chemical product before a super can be placed on for a honey crop or other product of the hive **AND**

(b) the physical harvesting of the honey crop or hive product for human consumption.

Adhering to the product labels including the listed withholding periods will ensure that the MRL will not be exceeded.

Withholding periods are based on how quickly any residues breakdown. Always make sure you follow the permit then the label, use the recommended dose (for hive size) and the recommended dose frequency. Overdosing can lead to excess residues. This can endanger human health and the reputation of Australia's beekeeping businesses, products and domestic and export markets.

In general –

- stick to the permit followed by the label (this is APVMA approved, and the withholding periods depend on correct dosing),

- don't repeat a dose sooner than the permit or label allows (i.e. within the 're-treatment interval' – if the product has not achieved satisfactory efficacy, consult with a Varroa Development Officer (from the T2M Program if before February 2026) and your local state department of agriculture apiary team.
- ensure you rotate chemical classes so that you don't inadvertently 'double-up' on an active ingredient, by checking the mode of action and chemical name of what's in a product.

Check withholding periods before using products

It's important to note that not all treatments are the same, including when it comes to withholding periods. Products with the same mode of action and chemical class may have differences to withholding periods which beekeepers must be aware of and adhere to.

Checking the WHP and understanding the requirements considering the colony phase and the purpose of your beekeeping can be a game changer when it comes to treating for varroa.

For example:

- Some treatments state you must not have supers on hives when using the product, i.e. Apivar, Apitraz, Apiguard AND Apistan.
- Some treatments can be used when supers are on hives, but have a withholding period and these can vary in length so should be fully understood by the beekeeper, i.e. Formic Pro
- Some products prevent the sale or harvesting of honey comb for human consumption due to the treatments being absorbed into wax products, i.e. Bayvarol (Flumethrin).

APPROVED CHEMICAL TREATMENTS TABLE

Reference: Australian Honey Bee Industry Council December 2024 Newsletter

NATIONAL Varroa Mite Management PROGRAM

The *National Varroa Mite Management Program* will kick-off it's 2025 workshops. A total of 28 workshops have already been booked for 2025 at the below locations with more workshops to be announced as further venues are confirmed.

NSW

- Coffs Harbour – Friday 21 March
- Campbelltown – Friday 4 April
- Katoomba - Saturday 12 April
- Albion Park - Wednesday 30 April
- Hunter Valley - Saturday 10 May
- Port Macquarie – Thursday 26 June

Click on the location for more information and to register.

Blue Banded Bees are amongst our most beautiful Australian native bees. They are about 11 mm long and have bands of metallic blue fur across their black abdomens. The male can be distinguished by the number of complete bands, having five as opposed to the females' four. Whilst these bees can give you a mild sting if you grab or step on them, they are not as aggressive as other bees. They appear to be more rapid in movement than other bees.

Blue Banded Bees are solitary bees. This means that each female bee mates and then builds a solitary nest by herself. She builds her nest in clay soil or sometimes in mudbricks. Females use their jaws to dig burrows. Inside the burrows, they create oval-shaped cells lining them with waterproof secretions. Before depositing an egg, a mixture of nectar and pollen is placed in the cell. Once an egg has been deposited each cell is capped, and when all cells are filled and capped, the burrow is closed with a layer of soil. The female then goes in search of another nesting site. Many Blue Banded Bees may build their nest burrows in the same spot, close to one another, like neighbouring houses in a village.

Blue-banded bees live for about 40 days and about three generations hatch during one summer. Baby bees take about seven weeks to hatch and those that do not hatch due to approaching winter, overwinter in their cells, emerging in the following spring.

Male, blue-banded bees roost together in small groups at night, out in the open, hanging onto twigs or stems with their mandibles. They vigorously shake their legs and wiggle their abdomens when a new bee arrives to settle. Eventually they all tuck their legs under their bodies to sleep. After warming up in the morning they go on their daily routine of foraging and finding a female to mate with.

Adult Blue Banded Bees usually fly only in warm months of the year (October till April) and all the adults die as the cold weather begins. But just because no Blue Banded Bees can be seen flying during the cold months does not mean that there are no bees present. During the cold months there are young, immature Blue Banded Bees dormant inside the nest and they will stay there until spring arrives.

Blue Banded Bees can perform a special type of pollination called **'buzz pollination'.** Some flowers hide their pollen inside tiny capsules. A Blue Banded Bee can grasp a flower of this type and shiver her flight muscles, causing the pollen to shoot out of the capsule. She can then collect the pollen for her nest and carry it from flower to flower, pollinating the flowers. Quite a few of our native Australian flowers require buzz pollination as well as tomato flowers, that are pollinated better when visited by a buzz pollinating bee.

Read the next article to see how to make a home for the Blue Banded Bees in your garden!

References: 1. Amegilla cingulata - Wikipedia
2. Advice on Native Bees in Houses
3. Blue Banded Bee (Amegilla)
4. Blue-banded Bees - Land for Wildlife

Sherrie Smith, January 2025

In a previous newsletter we looked at how to make your garden bee friendly by planting bee friendly plants to attract them. By providing food and water you encourage bees into your garden. By building a native bee hotel you provide them a home and encourage them to stay!

What types of bees would you expect to attract with your native bee hotel?

There are more than 2000 native bee species in Australia, so I won't be able to cover them all. A number of different kinds of native bees will use a Bee Hotel, as well as some beneficial wasps and other insects. The easiest way to identify the native bees in your Bee Hotel is to look at the materials they are using to build and seal their tiny nests.

Some of the most common kinds of native bees that you might see checking into your Bee Hotel are:

Black Resin Bee

❖ **Resin Bees** will nest in drilled holes in timber or in bamboo canes. They sometimes also use the holes that we have poked into our Blue Banded Bee mud bricks. Resin Bees collect soft resin oozing from a damaged tree limb and use it to construct cells inside their nests and to seal up the entrance of their finished nest. Sometimes they also pinch some resin from the entrance of our Stingless Bee hives! However, they don't do any harm to the Stingless Bees, so we are happy to let them do this. Resin Bees range in size from about 6 to 16 mm.

❖ **Leafcutter Bees** nest in the drilled holes in timber blocks and in bamboo canes. They cut beautifully regular circular and oval shaped pieces of soft leaf to construct their nests. They curl the leaf piece between their legs underneath their body to carry it back to their nests. They then manoeuvre the leaf piece into the hole and use it to construct individual cells for their young. Finally, they seal the nest hole with a series of leaf discs. Leaf cutter Bees range in size from about 6 to 15 mm.

Leafcutter Bee

Here are two completed nests made by Resin Bees -- the seal on the left one has chewed leaf material mixed into it, while the one on the right is made from pure tree resin.

A completed nest cell made by a Leafcutter Bee. It contains a ball of pollen and nectar, with a single egg.

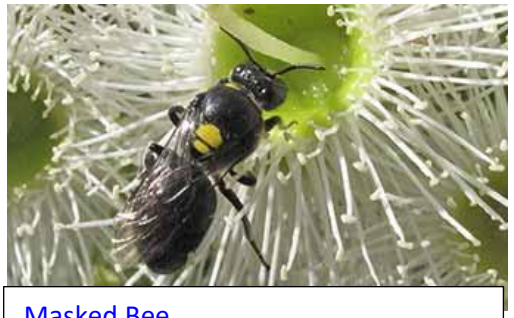
A Wasp Mimic Bee built this delicate springy nest entrance in a tiny hole in a mud brick wall

❖ **Wasp Mimic Bees** (*Hyleoides concinna*) will build nests in drilled timber holes and in bamboo canes. They secrete a cellophane-like material which they use to build cells inside their nest and to seal the nest entrance. Their nests are easy to recognise because they build a unique flexible barrier, made of cellophane strands, across the entrance of their nest hole. The dense network of strands looks like the iris of your eye (see photo). The strands are all cut in the middle, which allows the bee to push her way through the barrier as she enters and leaves her nest. This barrier is kept in place throughout the time that the female is making cells in her nest. As their name suggests, Wasp Mimic Bees look very much like orange and black wasps. However, they are true bees which collect nectar and pollen for their young. They are about 11 to 14 mm long.

Wasp Mimic Bee

❖ **Masked Bees** due to their relatively small size, tend to like the smaller holes in the drilled timber blocks and bamboo tubes. As in the Wasp Mimic Bees, Masked Bees secrete a cellophane-like material that they use to construct cells inside their nests and also to seal their nest entrance. Unlike the Wasp Mimic Bees, though, the Masked Bees do not seal their nest entrance until the nest is completed. At this stage they build a shiny flat translucent cellophane wall across the end of the nest tube. Most Masked Bees are less than 10 mm long.

Masked bees seal the entrances of their completed nests with a shiny whitish barrier made from their cellophane-like material.



Masked Bee

❖ **Reed Bees** cut nest burrows for themselves in pithy stems. So, you may find these bees nesting in the cut lantana canes in your Bee Hotel. Reed Bees are semi-social bees so there may be a small group of bees living in the one nest. Often one bee takes on the job of a guard and she blocks the tiny entrance hole of her nest with her abdomen. If you look closely, the bee's abdomen looks like a shiny red or black spot in the nest entrance. Reed Bees are about 4 to 8 mm long.

Reed Bee

❖ **Blue Banded Bees** will dig shallow nest burrows in clay bricks in a Bee Hotel. Each individual bee constructs a set of individual clay cells for her young, at the bottom of her nest burrow. Blue banded Bees are about 8 to 13 mm long.

Blue Banded Bee

- **Carder Bees** are a feral species from South Africa that was accidentally introduced to Australia in the late 1990s. They have now spread widely in Australia and may be seen from Queensland through to Victoria. They are quite common in some areas and may be found using Bee Hotels. They build a very distinctive nest that looks like a clump of cotton wool. They gather fine hairs from plant leaves to construct their nest. They are about 7 mm long.

Carder Bee

How to make a native bee hotel.

Deciding how big to make a native bee hotel is decided by what type of bee you are trying to attract. Researchers have found that making very large hotels or wall can cause pests and parasites to build up in these structures resulting in a drop in native bee numbers overtime.

For Resin Bees, Leafcutters and Reed Bees, make many small bee hotels and set them up in different parts of your garden. This mimics the natural situation: in the bush, the pithy stems or holes in timber, that these native bees use for their nests, are fairly scattered.

Bundles of hollow stems, reeds and bamboo bee hotels:
Using bamboo, hollow reeds, and/or dead flower stems, cut them to around 200mm lengths and jam them into a PCP pipe, empty tin can, or even a plastic bottle. Ensure that they are securely in place and hang or place securely off the ground around eye level near some flowers with the hollow ends facing the North/North East.
Extra tips: use sharp secateurs to get clean cuts and avoid treated/imported bamboo as it would have been fumigated at customs.

Drilled Hardwood Bee Hotels:
Using native hardwood such as eucalyptus that is cut to around 200mm lengths, drill holes with extra-long timber drill bits. Vary the drill bits from 3-9mm in diameter to cater for a range of different sized native bees. Attach wire/string and hang or place securely about eye level off the ground near some flowers with the drilled holes facing the North/North East.
Extra tips: avoid treated wood, hang securely so the hotel doesn't swing, and smooth the entrances with sandpaper.

For ground nesting bees like Blue Banded Bees, place the clay nest blocks in groups. In the bush, these bees are often built in quite dense clusters. Their nest sites are like a large village with dozens of individual nests. The scent of the nests encourages other bees to build in the site. So, if you want to make some clay nest blocks for Blue Banded Bees, you should place them in groups of about ten blocks. Small, isolated clay blocks are unlikely to attract Blue Banded Bees. Using a mix of clay and sand, pack into something like concrete besser blocks or any durable container. Use the tip of a pencil or a stick to poke small holes and place them horizontally on the ground in an area that receives plenty of sun, usually the northern aspect of a building/garden.

Extra tips: leave patches of un-mulched bare ground in the garden and place these types of hotels in aggregations as blue banded bees like to live near each other.

Useful Links: 1. Bee Grade Hotels - Gardening Australia

2. ***A step by step guide on how to make a blue banded bee hotel***

3. How to Build a Bee Hotel?

4. Make a native bee hotel and attract native bees into your garden

References: 1. Bee Hotel Guide - Native Bee Visitors

2. Support Pollinators: Build Native Bee Hotels, Workshops and Incursions

To help bees and other insects in your garden, set a shallow dish with water and stones or wet sand so the insects can get a drink without risk of drowning. *(ABC Central West: Melanie Pearce)*

Sherrie Smith, January 2025

What is SAC Brood?

Sacbrood virus is caused by a virus in the Iflavirus genus. The virus mostly affects worker larvae but can also infect adult honey bees. Infections of Sacbrood virus can occur at any time of the year but are most common during the brood-rearing season (from around September to February, depending on the location).

How does our hive get SAC Brood?

Sacbrood virus is present throughout most of Australia and its incidence is generally higher during the brood rearing season when the colony is under stress from a shortage of nectar or pollen, unfavourable climatic conditions or a poorly performing queen bee.

The sacbrood virus survives up to four weeks on honey, pollen, nectar, larval remains, and water. Foraging worker bees may encounter these sources during their daily travels, then unintentionally bring them back to the hive. Once inside the colony, adults can contract the virus, while nurse bees may feed contaminated food sources to their developing babies.

Beekeepers may also contribute to spreading the virus across even more hives during transportation and honey extraction.

Symptoms of SAC Brood?

Larva affected by Sacbrood virus with its head raised in a banana shape and stretched out on its back in the cell, with healthy larvae around. Rob Snyder, www.beeinformed.org

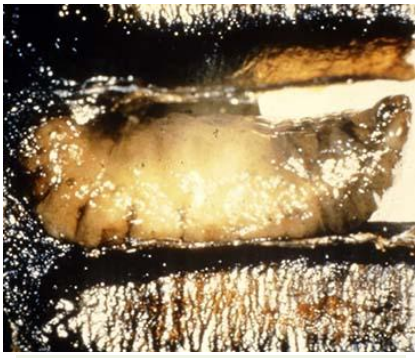
Infections of Sacbrood virus are most apparent when the virus infects larvae:

Infected nurse bees feed contaminated food to the larvae which multiplies within the infected larvae . An uneven brood pattern is seen with discoloured, sunken or perforated, jagged cappings scattered through the brood cells. This is generally caused from adult bees trying to remove infected brood.

The infected larvae die shortly after capping and fail to pupate. The larva dies with its head characteristically raised toward the top of the cell and stretched out on its back in the cell (ie banana shape). The larvae then change colour from a white to a yellow and then brown. Darkening begins at the head of the dead larva and spreads to the rest of the body.

The skin of the larvae hardens and fills with a fluid which gives the impression of the larvae becoming a fluid-filled sac, hence what gives the virus its name. The fluid contains viral particles, which allows the virus to spread and infect other bees.

Over time the larvae dry out becoming a brown to black coloured, brittle, scale that adheres loosely to the cell. The scales contain viral particles, providing another mechanism for spreading the virus.



Infected larva in cell showing the change in colour and the mouth parts turning black and pointing upwards. Food and Environment Research Agency (Fera), Crown Copyright

← Larvae with sacbrood form a fluid filled sack that can easily be removed from the cell.

Sacbrood virus can also affect adult bees:

Adult honey bees that are less than eight days old become infected when they ingest the virus. The virus can be ingested either in contaminated food or by removing larvae that were killed by the Sacbrood virus.

Infected adult bees do not show any obvious symptoms. However, the hypopharyngeal glands (these are the glands that produce royal jelly/brood food) of nurse bees become infected. It is thought that infected nurse bees may spread the virus to larvae while feeding them brood food. Adult bees that have been infected with the virus tend not to feed larvae for long. They often stop eating pollen (a behavioural change associated with the virus) and become foragers at a young age. While foraging the infected workers usually tend not to collect pollen, however, any pollen that is collected is contaminated with the virus and can act as a source of infection for other bees in the colony.

Sacbrood versus AFB and EFB:

Sacbrood and American foulbrood are both diseases that impact honey bee brood. Although their symptoms are similar, larval cells inflicted by AFB will rope out during the matchstick test – sacbrood-infested cells will not.

6 fast facts about sacbrood

1. **Workers, larvae, and occasional drones are affected by the virus.**
2. **2-day old larvae are most susceptible to the disease.**
3. **Infected adult bees exhibit no apparent symptoms but have a shorter lifespan.**
4. **The queen won't typically lay eggs near infected brood comb.**
5. **Granular fluid builds up between the larvae and the sacbrood skin.**
6. **Once the cell is sealed, diseased larvae die before reaching the pupal stage.**

Treatment for SAC Brood:

Healthy hives will usually deal with sacbrood through hygienic behaviour and the ability to detect and remove infected larvae.

Stressed and struggling hives may need help if there are unfavourable conditions. This could be a shortage of nectar or pollen, unfavourable climatic conditions, a poorly performing queen bee or infestation with other pests and/or diseases.

In extreme infections, beekeepers can re-queen (if Sacbrood virus is detected in more than 5 per cent of the brood), restore the colony's population through adding to the worker bee population or by providing sugar syrup or pollen. Reducing unused space in the hive by removing a super would also help.

Infected brood combs should be removed and either melted or placed in storage for two or more months (as the virus is relatively short lived in the absence of bees). This will remove the virus from the hive and the new queen bee should be able to replace the brood. As a precautionary measure, brood combs should also be replaced every 3-4 years by beekeepers.

Good Beekeeping Practices to prevent SAC Brood.

Sacbrood virus can be mitigated through responsible, hygienic apiary husbandry. Beekeepers can potentially spread the virus between hives by accidentally moving infected hive components from an infected hive to a non-infected hive. Regular sanitisation of hive equipment and tools can stop the continual spread of the disease. Researchers also indicate water as a potential source of contagion for SBV. Accordingly, water sources should be regularly changed, and containers sanitised.

Finally, maintaining a strong, well-nourished hive is always the most important step to disease prevention. A strong colony is exceptionally adept at eliminating diseases or other threats to its brood. Stressed or malnourished colonies lack the strength to fight off diseases such as SBV. By keeping hives robust and regularly monitored, beekeepers can significantly reduce the risk of SBV developing in their colonies.

References: 1. Sacbrood virus « Bee Aware
2. Sacbrood - Flow Hive US
3. What Is Sacbrood? A Beekeeper's Guide Bee Professor

Sherrie Smith, January 2025

What is DEFORMED WINGED VIRUS?

Deformed wing virus (DWV) is a virus which is transmitted by Varroa Mites, which may result in developing bees having smaller bodies, shrivelled and twisted wings, bloated abdomens, and discoloration. Infected bees are unable to fly or perform productive roles within the colony.

How does DWV affect honey bees?

The honey bee can contract DWV at any stage in its life. The earlier the contraction in the bee's development, the more severe, the impact.

- In the **early stages of development**, brood will typically die from the virus.
- **Pupae** that reach the "white eye" stage have much greater odds of survival; however, they will emerge from their cell malformed and die prematurely.
- **Adult bees** infected with deformed wing virus will show no symptoms (asymptomatic).

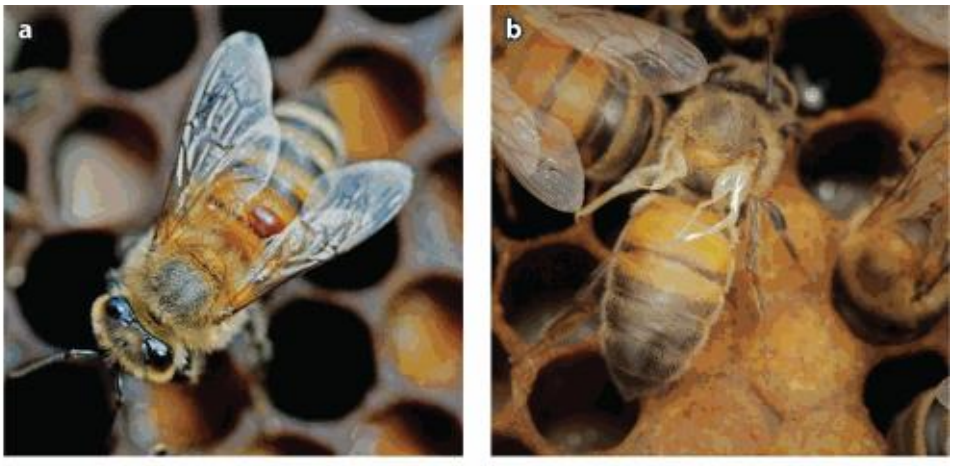
Symptoms of DWV:

The symptoms of DWV are easy for beekeepers to identify. Look for the following, which are giveaway signs of the virus:

1. Bees with odd colours and smaller bodies.
2. Crumpled, twisted, atrophied wings and bloated bodies.
3. Expelled bees crawling in front of the hive.
4. Paralysed bees.

Adult workers and drone bees carrying the virus may show no signs of DWV yet still spread it. Impaired brain function will cause difficulty learning and reduce the bee's lifespan.

Tip: Expect to see heightened symptoms during warm summer months when mite populations are peaking.



(a) A normal-looking asymptomatic honeybee that hosts an adult female *Varroa destructor* mite, the oval, brown object seen on her abdomen between her wings.

(b) A newly emerged bee showing the deformed wings typically associated with symptomatic deformed wing virus. Photos courtesy of Ethel Villalobos.

How to prevent deformed wing virus:

The best way to defend against DWV is to control varroa mite infestations. These parasitic mites are a vector for the virus, so keeping their numbers low helps stop viral transmission.

Beekeepers should:

- Keep the hives strong with good food resources left in the hive and not too much space as this will stress the bees trying to keep it warm and control pests within the hive.
- Replace weak Queen Bees.
- Test for varroa mites regularly, ensuring mite count doesn't exceed 3 per 100 bees.
- If mite counts are excessive, treat varroa.

Has DWV been detected in Australia?

Yes, DWV has been detected in Red Dwarf Honey Bees in Australia in February 2025, through surveillance activity located at Burrup Peninsula in northern WA. Read the full article by Dr Emily Remnant, BEE lab, University of Sydney **HERE.**

What should beekeepers do if they suspect DWV in their hive/s?

If a beekeeper suspects they have DWV in their hive/s the **virus testing advice** from the Virology section within the Elizabeth McArthur Agricultural Institute, is as follows:

- Preserve the adult bee sample in 80-100% denatured ethanol solution. (100% denatured ethanol preferred.) OR if ethanol is not available, snap freeze the adult bee sample/s in a jar and place them in the freezer asap. PLEASE NOTE Methylated spirit can compromise the testing for viruses so it is strongly recommended to be avoided for sample testing.

Contacts for sample pick up can be any of the 3 NSW Bee Biosecurity Officers or NSW T2M varroa supervisor Dave Fairhall. The other option is to call the Biosecurity Hotline number **1800 680 244**

Sam Giggins- 0438 533 156 sam.giggins@dpi.nsw.gov.au
Rod Bourke- 0438 677 195 rod.bourke@dpi.nsw.gov.au
Dan Martin- 0475 947516 daniel.martin@dpi.nsw.gov.au
Dave Fairhall- 0482 689 243 dave.fairhall@dpi.nsw.gov.au

How does DWV spread?

Occasionally, a hive may get a visit from a stray bee in search of food or warm shelter. That bee might be infected with the Varroa mite. Naturally, the bees guarding the hive will attack and kill that stray bee, but the contamination with the infectious virus will inevitably spread to that colony too.

Treatment for DWV:

Treatment primarily focuses on controlling the Varroa mite population. Perform Varroa mite surveillance by doing an alcohol or soapy water wash and treat for varroa if mite counts are above recommended thresholds.

Interesting Fact: There is increasing evidence that viruses like DWV can also be carried by a much wider variety of invertebrates than just honeybees, with studies having shown detectable levels of DWV in 65 arthropod species including some Arachnids (spiders and mites). How these organisms interact with and maintain or transmit DWV back to honeybees remains the subject of significant international research.

References:

1. What Is Deformed Wing Virus? A Beekeeper's Guide Bee Professor
2. Keeping Australia's bees free from broken wing disorders | Western Sydney University
3. Understanding the Deformed Wing Virus in Honeybees

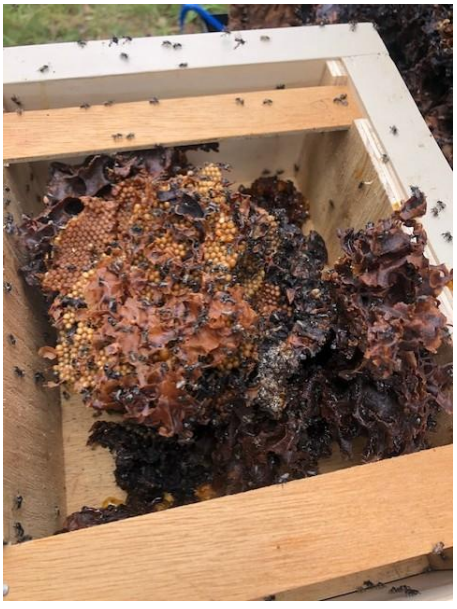
Sherrie Smith, February 2025

Native Bee Rescue Bateau Bay

One of our long standing members, Kerry Naughton, who is also a member of Landcare, contacted our apiary officer Michael Graham, to inform him of a native bee hive that needed rescuing. A tree on one of the Landcare sites had fallen down and had exposed the hive. Michael, Neil Smith, Kerry and her husband Bill , organised with Gosford Council to gain access to the site and save the hive.

Accessing the hive was made quite difficult with the tree being full of termite nests, which the native bees had built their hive in and around. After chiseling away some of the termite nest, they were able to chainsaw the hive out of the tree and placed it into a new native bee box. Then it was time for a picnic, which Kerry supplied, whilst they waited to collect as many forager bees as possible.

The hive seemed to be queenless, but 3 princess cells were seen. Michael took the hive home to monitor how it was doing and on day 6 after the removal, a mating swarm was seen outside the hive. The hive is doing well and will be included at the club apiary site at a later stage, when it can be placed there securely. Well done to all involved for saving such a valuable hive!!!



Thank you Kerry Naughton for supplying the photos!
December 2024

Frame and Box Building Workshop February 2025

What a great day was had by all, at the first frame and box building workshop for 2025, which was held at the Henry Kendal Ag House!

Lots of knowledge and different ways of doing things, were shared with new members from our more experienced beekeepers in the club.

There were 5 work stations, box assembly, frame assembly, frame wiring, wax embedding and the tea and coffee station! There were some incredibly unique drilling and screwing techniques on show, which required some expert instruction!

Thank you to all of those who attended for helping out the club apiary with assembly of equipment, it is greatly appreciated! New members were also assisted with assembling their own new equipment.

For those of you who missed out, we will be running another workshop later in the year. If you need help before then, please do not hesitate to contact us !

Looking for a reputable queen bee breeder? Try the below contacts.

Name	Phone number	Location
Lockwoods- Garth Miller	0450369982	Bathurst
Jamie Baggs	0410508939	Edgeworth
Hannabees	0408543437	Dubbo

QUEEN REARING

- Queen bees are essential for the health and productivity of a bee colony, as they are the only sexually mature females, and their main purpose is to lay eggs.
- There are two main methods of queen rearing: natural and artificial, with the latter involving techniques such as grafting, queen cell starter kits, and mating nucs.
- Preparing to breed queens involves assessing the health of the colony, choosing the right parent stock, and preparing the breeding equipment.
- Ensuring a suitable environment for queen cells to develop is crucial, regardless of the artificial rearing method chosen.
- Managing the queen rearing process involves monitoring the progress and maturity of queen cells, introducing them to the colony at the appropriate time, and ensuring their acceptance by the colony.
- Challenges in queen rearing include poor weather conditions, inadequate equipment, and improper timing, which can be addressed through best practices like choosing healthy parent stock, using quality equipment, and paying attention to proper timing.
- Patience, attention to detail, and record-keeping are critical to the success of queen rearing, as they help improve the process and the quality of queens produced.

Reference: What You Need To Know About Queen Rearing

Queen rearing course

2-day queen rearing course
15-16 March 2025 from 9am-430pm
Covers theory and hands-on practice

Hosted by Cumberland Beekeepers Club
Training by Bruce White and Nadine Chapman
Morning tea and lunch provided
$250

For more information and purchase tickets, click on the link below:

QUEEN REARING COURSE

THE CLUB COMMITTEE NEEDS YOU!

Do you need a challenge for 2025 but haven't quite found it? Well, why not join the club committee. The Events Co-Ordinator, Equipment Officer and Assistant Secretary positions are yet to be filled for 2025. These positions may sound daunting, but if you choose to try one on for size, you will be well supported by the current committee members!!!
If you would like to help out the club and take on a new role, please send an email to president@centralcoastbees.org
We would love to have your help as many hands make light work!!!

March Education Session includes how to make creamed honey!

April Education Session is to be confirmed

ABACC 2025 CLUB MEETING DATES

Club Meetings on the 4th Wednesday of the Month (except January)

Wednesday 26th of February 2025
Wednesday 26th of March 2025
Wednesday 23rd April 2025
Wednesday 28th May 2025
Wednesday 25th June 2025
Wednesday 23rd July 2025
Wednesday 27th August 2025
Wednesday 24th September 2025
Wednesday 22nd October 2025
Wednesday 26th November 2025
December meeting/ Christmas party date to be confirmed

OFFICE	NAME	EMAIL ADDRESS
Voting Positions		
President	Hart PETERS	president@centralcoastbees.org
Vice President	Wayne LOGAN	vicepresident@centralcoastbees.org
Secretary	Sherrie SMITH	secretary@centralcoastbees.org
Treasurer	Gordon FOSTER	treasurer@centralcoastbees.org
Ordinary Member	Michael GRAHAM	apiaryofficer@centralcoastbees.org
Ordinary Member	Neil Smith	membership@centralcoastbees.org
Ordinary Member	Robert Ray	
Non-Voting Positions		
Public Officer	Hart PETERS	president@centralcoastbees.org
Club Apiary Officer	Michael GRAHAM	apiaryofficer@centralcoastbees.org
Biosecurity Officer	Max Rae	biosecurity@centralcoastbees.org
Assistant Apiary Officer	Neil Smith	membership@centralcoastbees.org
Membership Officer	Neil Smith	membership@centralcoastbees.org
Quartermaster	Bruce MAIN	bhv.main@gmail.com
Newsletter Editor	Sherrie SMITH	secretary@centralcoastbees.org
Publicity Officer	Barbara ELKINS	barbaraelkins@ozemail.com.au
Librarian	Heidi ANDREWS	rumbalarabeesau@gmail.com
Catering Officer	Neil & Sherrie SMITH	secretary@centralcoastbees.org
Events Co-Ordinator	**Position currently vacant**	
Equipment Officer	**Position currently vacant**	
Assistant Secretary	**Position currently vacant**	

The Club Quartermaster, **Bruce Main**, carries a stock of basic beekeeping supplies available to Club members. Items and pricing are as follows:

Price List (as of 24th January 2025)

HIVES		
Boxes – 8 Frame (unassembled) – Full Depth	$31.00	each
Boxes – 8 Frame (unassembled) – WSP	$28.00	each
Boxes – 8 Frame (unassembled) – Ideal	$25.00	each
Migratory Lids – 8 Frame (unassembled)	$25.00	each
Bottom Boards – 8 Frame (unassembled)	$25.00	each
Queen Excluder – Metal 8 Frame	$11.00	each
Queen Excluder – Timber Surround Metal 8 Frame	$12.00	each
FRAMES		
Frames (unassembled) - Full Depth	$19.00	per bundle of 10
Frames (unassembled) - WSP	$20.00	per bundle of 10
Frames (unassembled) - Ideal	$20.00	per bundle of 10
Frames – Plastic Drone Comb	$3.80	each
FOUNDATION WAX		
Foundation Wax – Full Depth	$3.00	per sheet
Foundation Wax – WSP	$2.80	per sheet
Foundation Wax – Ideal	$2.30	per sheet
Foundation Wax – Drone Comb	$2.50	per sheet
TOOLS & ACCESSORIES		
Apithor – (hive beetle trap)	$9.00	each
Bee Brush	$14.50	each
Cover End Vents (metal)	$2.50	per set of 4
Emlocks (Hive Strap)	$11.00	each
Escape Boards – 8 Frame (complete)	$29.00	each
Eyelet Tool	$11.00	each
Eyelets - Brass	$16.00	pack of 500
Frame Lifter	$7.00	each
Framing Wire – Stainless Steel (500g roll)	$26.50	per roll
Hive Tool	$17.50	each
Queen Catcher Clips – Stainless Steel	$5.00	each
Varroa Mite – Alcohol Wash Test Kit	$10.50	each
CONTAINERS & LABELS		
Glass Jars with Lids (500gm)	$23.50	per carton of 24
Honey Squeeze Bottles with Caps (500gm)	$10.50	per pack of 12
Honey Tubs with lid (1kg)	$1.90	each
Labels - Club Honey Container Labels	$0.65	each label
Labels - “Made in Australia” (126 labels on a sheet)	$5.00	per sheet

We have a Wire Framing Jig and a Wax Embedder (electric) available for hire to club members at a small cost of $3.00 per item for 3 days’ hire. (members are to provide their own framing hardware)

NOTE: Item/s hired must be returned by 5:00pm on day 3 of the hire period (unless prior arrangement for alternate return is made.)

To order items either phone 43 246284 and leave a short, clear message or send through an email to bhv.main@gmail.com and I will either prepare the order for pick up at Narara at a mutually pre- arranged day and time or I can bring your order along to the next monthly club meeting. (address available on request.)

ALL ORDERS LODGED will be responded to on the same day, providing the request is placed before 4:30pm. Orders placed after this time will be responded to the following day.

All sales are CASH ONLY. There is no Eftpos available for any purchases.

NOTE: Please be aware, prices shown are to be used as a guide only and may vary without notice depending on Supplier cost variations.

This equipment is stored and maintained currently by the club president, Hart Peters until we can find a new equipment officer for the club.

The protocol for use of the equipment is to contact Hart in advance of when you are expecting to carry out an extraction and make a booking. It is wise to plan 1-2 weeks ahead. In times of peak honey flow, the equipment can be in high demand.

Hart can be contacted on 0417674687 or email president@centralcoastbees.org and he will advise availability, a pickup and drop off time and location. Please adhere to these times as other members may be in line to use the equipment after you.

Hart will request a deposit of $20.00 (depending on how much equipment you borrow). The deposit will be refunded when the gear is returned, clean and ready for the next user. If the equipment is covered in wax or honey, and therefore not ready for the next user, your deposit may be forfeited. This is at Hart's discretion.

Any damage or breakages are the responsibility of the member borrowing the equipment. You are expected to rectify or replace the item at your cost. Please check the equipment when you collect it. If anything is out of order, please notify Hart immediately.

Equipment available:

- 1 Manual honey extractor in 2 frame size
- 1 Manual honey extractor in 4 frame size
- 1 Electric honey extractor in 3 frame
- 2 Manual honeycomb presses
- 2 Electric uncapping knives
- 1 Cold uncapping knife
- 1 Honey creamer
- 1 strainer with coarse and fine 3 stainless steel bowls 1 spatula
- 2 person hive lifter for moving hives or removing or replacing supers.

The following publications are available for members of the ABACC to borrow. Please see Heidi at our club meeting. The library is available from 6:30pm on club meeting nights. You may hold a book for 1 calendar month, and it must be returned at the next meeting. If you are unable to attend, please make arrangements for the item to be returned in your absence.

Book List

Title	Author	Copies
500 Answers to Bee Questions	Al.Root	1
A Guide to Native Bees of Australia	Terry Houston	1
A Honeybee Heart	Hellen Jukes	1
A Sparkle Book Busy Bees	Chn Sparkle Book	1
A Sting in The Tale	Dave Goulson	1
A Thousand Answers To Beekeeping	Dr C.C Miller	1
A World Without Bees	Alison Benjamin C Brian McCallum	1
A Year in The Beeyard	Rodger A Morse	2
ABC C XYZ of Bee Culture	Al.Root	1
Ag Guide Australian Native Bees	Dept of Primary Industries	1
Ag Guide Honey Harvesting	Dept of Primary Industries	2
Ag Guide Pollination	Dept of Primary Industries	1
Ag Guide Queen Bee Breeding	Dept of Primary Industries	2
Anatomy and Dissection of the Honey Bee	H.A. Dade	1
At The Hive Entrance	H.Storch	1
Australian Stingless Bees. A guide to sugarbag bee-keeping	John Klumpp	1
Backyard Beekeeping Aus C NZ	C.N.Smithers	1
Bee Friendly	Mark Leech RIRDC	1
Bee Health	Hasnain Walji PHD	2
Bee Keeping The Gentle Craft	John F Adams	1
Beehive Alchemy	Petra Ahnert	1
Beekeeping	Dept of Ag	3

Beekeeping	A. Frank May	1
Beekeeping in Antiquity	H. Malcolm Fraser	1
Beekeeping In Australia	Fred Bailey	1
Beekeeping In New Zealand	Ministry Of Ag In NZ	1
Beekeeping In The Tropics	Francis G. Smith	2
Beekeeping In Victoria	Department of Agriculture Victoria	2
Bees	I.Khalifman	1
Bees and Honey	NSW Dept of Agriculture	2
Bees and Mankind	John B Free	1
Bees Biology and Management	Peter G Kevan	1
Bees of Australia	James Dorey	1
Bees of the World	Christopher O'Toole C Anthony Raw	1
Bees Vision Chemical Senses and Language	Karl von Frisch	1
Behaviour of Australian Stingless Bees. 3rd Ed.	Anne Dollin	1
Better Bee Keeping	Kim Flottum	1
Boxes to Bar Hives	Trevor H Weatherhead	1
Boxing and Splitting Hives. 2nd Ed.	Anne Dollin and Russell and Janine Zabel	1
Breeding the Honeybee	Brother Adam	1
Contemporary Queen Rearing	Harry h Laidlaw JR	1
Control of Varroa: A Guide for New Zealand Beekeepers	Michelle Taylor and Mark Goodwin	4
Creating a Haven for Native Bees	Kit Prendergast	1
Curative Properties Honey C Bee Venom	N Yoirish	1
Eucalypts of the Sydney Region	Gary Leonard	1
Field Guides to Eucalypts	Brooker C Kleinig	1
Following the Wild Bees	Thomas Seeley	1
Guide to Bees and Honey	Ted Hooper	1
Honey. A Comprehensive Survey	Eva Crane	1
Honey and Pollen Flora	Alan Clemson	
Honey and Pollen flora of South-Eastern Australia	Douglas Somerville	1
Honey Natures Golden Healer	Gloria Havenhand	1
Honey Bee Pests and Diseases. A complete guide to prevention and management	Robert Owen, Jean-Pierre Y. Scheerlinck, Mark Stevenson	1

Honey Business	Fred Benecke	1
Honey Cookbook	Peter Russell-Clarke	1
Honey Flora from Queensland	S.T. Blake C Croff	1
Honey from the Earth	Eric Tourneret	1
Honeybee Democracy	Thomas Seeley	1
Honeybee Ecology	Thomas Seeley	2
Honeybee Pests, Predators and Diseases	Rodger A Morse and Kim Flottum	1
How to Keep Bees and Sell Honey	Walter T Kelley	1
How to Recognise the Different Types of Australian Stingless Bees	Anne Dollin	2
Keeping Australian Stingless Bees in a Log or Box. 3rd Ed	Anne Dollin and Tim Heard	1
Keeping Bees	Peter Beckley	1
Langstroth on the Hive and Honey Bee	L.L.Langstroth	1
Making Mead (Honey wine)	Roger A Morse	1
Mastering the Art of Beekeeping vol 1	Ormond C Harry Aebi	1
Mastering the Art of Beekeeping vol 2	Ormond C Harry Aebi	1
Native Bees of the Sydney Region	Anne Dollin, Michael Batley, Martyn Robinson and Brian Faulkner	1
Natures Little Wonders Bees	Candace Savage	1
Nests of Australian Stingless Bees. 3rd Ed	Anne Dollin	1
Pandeme of Bees	Sezzajai Sykes	1
Phosphorescence	Julia Baird	1
Planting Native Trees on Farms	NSW Government	1
Pollination of Fruit Crops	Horticultural Education Association	1
Queen Rearing	L.E.Snelgrove	1
Queen Spotting	Hilary Kearney	1
Research Report 1980-1995	Honeybee Research C Development Council	1
Song of Increase	Jacqueline Freeman	1
The Amateur Beekeepers Association NSW	Jim Wright	1
The Australian Beekeeping Manual	Robert Owen	1
The Australian Native Bee Book	Tim Heard	2
The Barefoot Beekeeper	Philip Chandler	2
The Bee Book. Beekeeping in Australia. 3rd Ed.	Peter Warhurst C Roger Goebel	1

The Bee-Friendly Beekeeper, A Sustainable Approach	David Heaf	1
The Bee Friendly Garden	Doug Purdie	1
The Beekeepers Lament	Hannah Nordhaus	1
The Beekeepers of Sinjar	Dunya Mikhail	1
The Behaviour and Social Life of Honeybees	Ronald Ribbands	1
The Biology of the Honey Bee	Mark L Winston	1
The Book of Bees	Piotr Socha	1
The Complete Handbook of Beekeeping	Herbert Mace	1
The Compleat Mead Maker	Ken Schramm	1
The Contented Bee	ABC Books	1
The Dance Language Orientation of Bees	Karl von Frisch	1
The Dancing Bees	Karl von Frisch	1
The History of Bees	Maja Lunde	1
The Hive	Bee Wilson	1
The Hive and the Honey Bee	Dadant and Sons	1
The Honey Bee	James L Gould	1
The Honey Factory	Jurgen Tuatz C Diedrich Steen	1
The Honey Flow	Tennant	1
The Honey of Australian Native Stingless Bees	Dean Haley	1
The Legend of the Hive	Maria Owsianka	1
The Lives of Bees	Thomas Seeley	1
The Mind of a Bee	Lars Chittka	1
The Super-Organism	Bert Holldobler C Heather Harrell	1
The Wisdom of the Hive	Thomas Seeley	1
The World of Bees	Rudolf Steiner	1
Top-Bar Beekeeping	Les Crowder C Heather Harrell	1
Two Million Blossoms	Kristen. S, Traynor	1
Varroa Management. A practical guide on how to manage Varroa mites in honey bee colonies	Kristy Stainton	1

DVDs	
Title	**Copies**
Queen of the Sun	2
More than Honey	1
Silence of the Bees	1
Honey Bee Blues	1
The Mysterious Bee	4
Artificial Insemination of Queen Bees	1
Frame Building, Wiring and Foundation	1
American Foul Brood C Small Hive Beetle in Bees	2
A Beginners Guide to Beekeeping by Arthur Garske	1
Life Cycle of a Bee	1

CONTACT HEIDI OUR LIBRARIAN via email:
rumbalarabeesau@gmail.com