# Townsville and District Beekeepers Association (Inc.)

www.beesnorth.com.au

PO Box 1115, Aitkenvale QLD 4814

Newsletter No 5, June 2020

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- Bee anatomy, Product Review
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- New Members, Club officials
- New Sugar shaking form and jars
- Club Shop – New price list


**Next Meeting:**

**June meeting postponed**

## *Lucinda Trip to visit Ian Goulevitch*

Words and pics from President Mick Olsen and First Lady Naomi Olsen

On Wednesday, 03 Jun 2020, Naomi and I decided to flee Townsville in our recently purchased caravan for beautiful Lucinda for a few days. One of our members, Ian Goulevitch, lives in this part of the world, and we made contact to see if we could catch up and look at his set up of Flow Hives. Ian was more than happy to show us his set up and we agreed to meet at Ian's place on Wednesday night for dinner, and a few liquid refreshments. For those members who have not had the pleasure to meet Ian, he is truly knowledgeable in beekeeping, and I consider him to be the Don Juan of Flow Hives in our club.

Another of Ian's hidden talents is that he is quite the dab cook. We were entertained with chilli bugs for entrée and a New York cut Rib with prawns and clams. After the awesome food, the evening continued with discussion of all thing's bees over a few more liquid refreshments and the evening topped off with some toasts with Russian Vodka at 2400hrs.

An early start at 0800hrs saw us drive out to Longpocket where Ian has his hives at two different locations. We assisted Ian in changing out an old brood box and replacing with a new one. Ian explained and demonstrated how he harvests his honey on his own by using the crane in the back of his purpose-built side by side. We were extremely impressed with his set up and when I started showing more than a little interest Naomi knew where this was headed and completely shut me down. So, no new toys for this unlucky rooster.

Ian has invested heavily into bees and particularly Flow Hives and it is great to see the passion in which he applies to this awesome hobby. Any new members that are thinking of investing in a Flow Hive, and it is an investment, have a chat to Ian and he would be more than happy to discuss the pros and the cons of these hives. The club is lucky to have such a knowledgeable person on Flow hives and someone with a deep passion for bees.
Thanks Ian, Naomi and I had a great time and walked away all the wiser in the workings of Flow Hives
One the way home we called in and saw another member, Paul Carr. Paul grows a variety of crops on his property one of which is Taro. Naomi and I had not tried Taro before, but we are now converts and use this instead of potatoes.

Ian in his meticulously kept workshop

Ian and Naomi doing the rounds in the air conditioned "Honeymobile".

End view of Flow Hive frames showing full cells ready to be harvested.

Side view of Flow Hive frame

Ian's hives in the cane field at Longpocket

Two photos on the right showing Ian and Mick doing some hard yakka.

*PS: Can we call the President POTBeeK and his good lady Naomi, FLOTBeeK, as in **P**resident of the **T**ownsville **Bee K**eepers and **F**irst **L**ady of the **T**ownsville **Bee K**eepers?*

After a hard day's work, you need a good feed. Ian's gourmet treat.

## *Blooper of the Month - Queens*

The Editor hasn't heard from any of you about your "Bloopers for the Month", so I thought I would provide one of my own. These stories are usually from Anonymous Sources, but this one is all my own work. Cheers, Lindsay.

Queens!!!!,ya gotta love'em, but they are a bit hard to figure out. The Ed had a swarm recently, the hive had self re-queened, and I was feeling pretty good about the hives' progress. But then the electronic wifi hive scales told me things had started heading "South". Several kilos of lost hive weight over 3 weeks, no eggs on last inspection, and very few larvae led me to believe I needed to check if she was still there, or to replace her ("commodification" of her royal highness?).
For hive monitoring data, you can look at : http://www.beesnorth.com.au/pages/HiveMonitoring.htm

So, with a new $30 caged queen in hand, I marched off to the hive, opened up the brood, and Woa!!, there was this big fat glistening unmarked queen wandering around – no probs!!, just catch and mark her with my pink Posco pen using one of the fancy sliding door queen cages available from the Club Shop, and keep the new queen for another hive. The phase where you release the queen back into the hive after marking her is where things went wrong for me.
I opened the sliding door on the queen cage only to see her disappear over the back edge of the brood box and down on to some stickies waiting to be inserted and with a squillion bees crawling around on their honeyed surface. I spent the next 15 minutes on hands and knees crawling around looking for her, but didn't find her. No probs!! – just pop the new queen in and if the old queen turns up (dropped queens have been known to crawl back into the hive and re-appear), and let them duke it out.

Where's the new queen??? Unknown to me, my dearly beloved had come home from a trip and "saved" me from thievery and loss by taking my bag containing the queen upstairs and inside the house for safekeeping. I frantically searched the whole yard, the car several times, the shed, the area around the hive – but no, it was true, I was really becoming old and doddery and gradually realised that I had probably left my bag on the roof of the car at my previous hive inspection that morning over at Willmett St. Oh Crap!, what if someone had run over her?, what about my wallet, credit card, phone etc? So I shouted out to her upstairs – "err, I may have left my wallet, bag, and um, err, the queen at Willmett St, I'll be back soon". Then I heard the news that all was OK, the bag and queen were safe upstairs. So, I grabbed the new queen and placed her in the brood chamber – easy.

Around 10 days later, BQ came for their regular hive inspection, and I had told them of my drama, so it appeared to be quite hilarious – to them, anyway – when this plump pink queen came marching out over the frame – the "dropped" queen. After she took the big leap off the back of the hive, 10 days before, she must have done the long march back to the front of the hive and scaled the table, knocked on the door and been let back in with open arms (wings). There was no sign of the poor caged queen who had been introduced, so I imagine she was booted out or killed after emerging from the cage.
Moral: Face the queen cage downwards to the brood frames when releasing your newly marked queen, and don't leave queens in a bag where someone can "steal" them.

## *Preliminary results indicate that beekeepers have less COVID – 19*

https://www.beeculture.com/catch-the-buzz-beekeepers-have-less-covid-preliminary/ - May 22, 2020

Published in: Toxicon. 2020 Apr 30 doi: 10.1016/j.toxicon.2020.04.105 [Epub ahead of print] PMCID: PMC7190514 PMID: 32360140
Bee Venom and SARS-CoV-2 by Wei Yang*, Fu-liang Hu, Xiao-feng Xu

According to data from Johns Hopkins Coronavirus Resource Center, the global number of confirmed COVID-19 case exceeded 2.0 million on the 15th of April. I am a physician, and I participated the prevention and control of coronavirus in China.
There is one discovery we would like to report here. It reminds us the story of the discovery of cowpox and the eventual victory of humans over this disease (Bennett and Baxby, 1996). In Hubei province, the epicentre of COVID-19 in China, the local beekeepers association conducted a survey of beekeepers (Fig. 1 ). A total of 5115 beekeepers were surveyed from February 23 to March 8, including 723 in Wuhan, the outbreak epicentre of Hubei. None of these beekeepers developed symptoms associated with COVID-19, and their health was totally normal. After that, we interviewed five apitherapists in Wuhan and followed 121 patients of their apitherapy clinic. These patients had received apitherapy from October 2019 to December 2019, and all the five bee apitherapists have the habit of self-apitherapy for their own health care (apitherapy means making use of bee venom from the honeybee's sting to treat or prevent certain diseases). Without any protective measures, two of the five apitherapists were exposed to suspected COVID-19 cases and others were exposed to confirmed COVID-19 cases, but none of them were infected eventually. None of the 121 patients were infected by SARS-CoV-2, and three of them had close contact with immediate family members who were confirmed SARS-CoV-2 Infection cases. It might be supposed that beekeepers are less likely to be exposed to SARS-CoV-2 because they live in less densely populated rural areas. But the five apitherapists and their patients are from densely populated areas in Wuhan. These people have one thing in common: they develop a tolerance to bee sting.

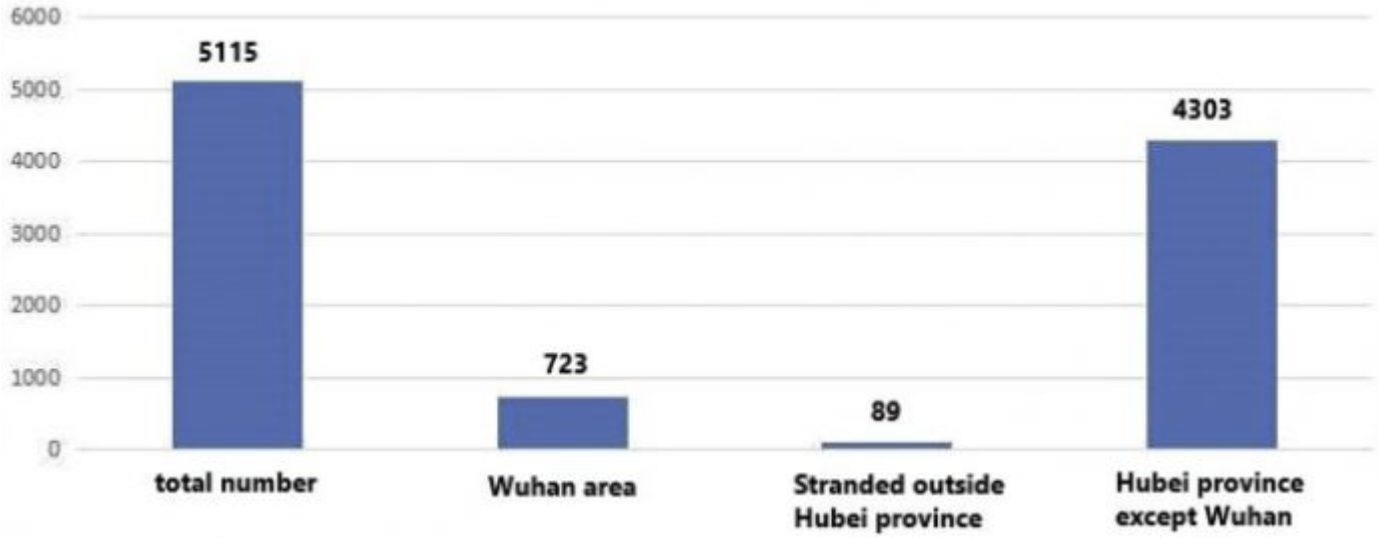
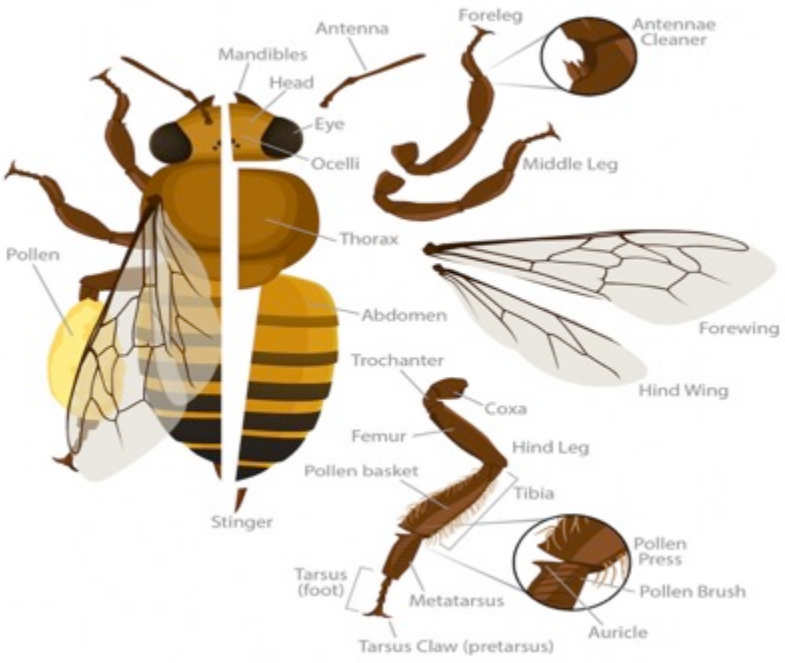



Fig. 1 Investigation histogram of beekeepers in Hubei.

Bee sting can cause allergic reactions (Park and Lee, 2016), and it can even lead to death due to the excessive stress response of the immune system (Vazquez-Revuelta and Madrigal-Burgaleta, 2018). Bee venom can affect the body's immune system (Cherniack and Govorushko, 2018) and enhance the differentiation of human regulatory T cells (Caramalho et al., 2015), which play an important role in control of SARS-CoV infection (Chen et al., 2010). Does the stimulation of the immune system caused by bee venom reduce susceptibility to SARS-CoV-2? To test this, animal experiments would be needed. Monkeys might be suitable for this study. Monkeys could be divided into two experimental groups with the same breed and age. One group could be made tolerant to bee venom after a period of daily bee stings, while the other group receives no intervention. They could then be raised in the same environment contaminated by SARS-CoV-2, and multiple tests performed to see if they were infected by SARS-CoV-2. Our purpose in writing this letter is to ask scholars with appropriate research conditions to test this assumption. In the absence of vaccine of SARS-CoV-2, if this method works, then it could offer one hope towards victory over COVID-19.

**Ed's Comment:** Maybe the suggestion that beekeepers get less COVID-19 is due to the fact they wander around in big white suits with mesh screens over their faces, and no one comes near them when there are bees on the loose??

# *The anatomy of the bee is fascinating - Abdomen*




**Reproductive Organs**
In queen bees, the abdomen features the spermatheca, which is used to store sperm collected during her mating flights and when laying, as she fertilizes eggs. The ovaries of the queen will mature and begin producing eggs between the age of 1-2 weeks and she will continue to lay eggs until her death.
For the drone, his sexual organ is a "use once" device! After the drone mates his sexual organs are ripped from him, causing his death. Another curiosity is that his ejaculation is so explosive that it can be heard by the human ear.

**Wax Glands**
For worker bees, four pairs of wax-producing scales exist on the underside of the abdomen. These secrete liquefied wax, which harden into thin scales when exposed to air.
The task of creating wax within a hive is left to young worker bees. Workers can create around 8 scales in a 12-hour period. Around 1,000 such scales must be created within the colony to make a single gram of wax.

**Stinger**
Of all components of the anatomy of a bee, the stinger is the one that the layman considers first! The stinger is the honey bee's only true line of defense. Honey bees will sting only as a last resort when threatened because once they have used their stinger they typically die.
The stinger differs across worker, queen and drone as follows:

**Worker:** The stinger is barbed, and once inserted into human skin will be torn away as the bee struggles to free herself. This usually results in the death of the worker.
**Queen**. A queen's stinger has no barb and she can therefore sting repeatedly without losing it. Note, however, that stings by queen bees are quite rare.
**Drone:** Nothing to worry about with drones – they have no stinger!

In conclusion, the anatomy of the bee is beautiful and incredibly efficient. The next time you see a honey bee, consider how that tiny body packs so much into such a small space.

Jon McKinstry

# *Product Review – Hive Doctor One Piece Top Feeder from Ecrotek*

The Editor is kicking off a new section detailing some of the old, some of the new, and especially some of the weird and wacky tricks and inventions for beekeeping. Please send me your photos and stories of experiences with gadgets or gimmicks to share with the Club (editor@beesnorth.com.au).

This Month's gadget is the bee feeder from Ecrotek.com.au. It is called a Hive Doctor One Piece 12l Top Feeder. It is listed on the NZ website for around $20, but landed in Australia maybe around $30? They also make a variety of other plastic hive gear, and The Club has successfully used some of their corflute nuc boxes. Some dexterously challenged people needed several viewings of the "how to fold a corflute nuc box" on Youtube several times to assemble one – Tab A goes into Tab B,….or Tab C?

**What is it?**
It's a hive mounted syrup tray with feeding slots that the bees can access from down below and sip at the sugar syrup that you pour in the top section.

**Does it work?**
Kiwi beekeepers use these during their winter slow down period to keep their hives boosted and ready for the Manuka honey flow. I have used one in Townsville, but its no good if you want to check the brood box as you have to lift up the tray and the syrup tips over everything if you are not careful, and the bees really get stuck into an open tray of syrup, so you can end up with a lot of drowned bees up top if you remove the hive lid for too long. For prolonged feeding it's useful because you can just lift the lid, pour in more syrup and move on, as no bees will be able to come up through the covered feeding slots (the white plastic covers in top photo on right).

**Is it worth it?**
Depends. If you have a slow or declining hive with no nectar prospects, or if you want to kickstart a slow hive after splitting it could be useful, but you need to leave the top tray closed until all the syrup has gone. A plastic drink bottle with a $2 feeder (from the Club Shop) pushed in the front entrance is pretty easy to use and will feed the bees for a few days, but can be very messy if things leak. These feeders are for longer term installation and bigger volumes of syrup.

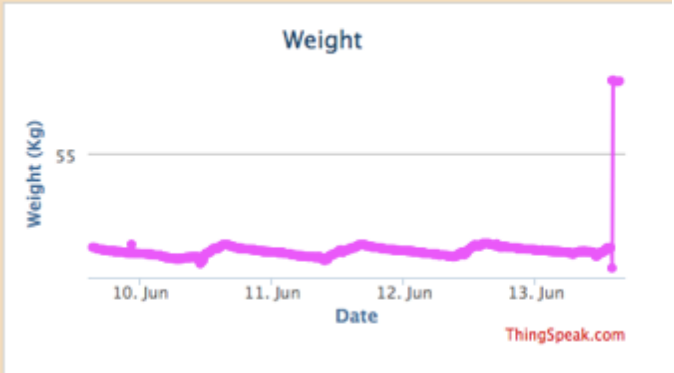
The Ed will report back next month, when I can see whether the hive weights suddenly started increasing after adding the feeders. See our Club website for hive progress at: http://www.beesnorth.com.au/pages/HiveMonitoring.htm.

The hive feeder has been added to the hive "North Ward". The jump in weight at 2:00 pm on Sat 13 June is when the feeder and syrup were added, check it out.

Two black top feeders in place

Top feeder from the top, and below

North Ward:



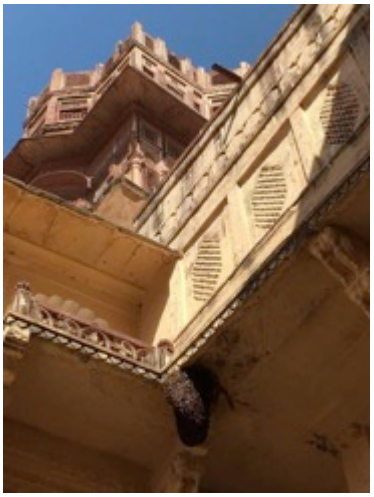
## *Mick and Naomi's "almost excellent" trip to India during COVID-19*

Not ones to be deterred by the dangers of tummy bugs and long queues at train stations, the Taj Mahal and other tourist hot spots for tickets, President Mick and First Lady Naomi took off for India just before COVID-19 had been declared. Of course they were forced to come back mid trip. They are now both back in Townsville, hale and hearty and healthy, but before they left India, they managed to do a bit of bee reconnaissance for our Newsletter. Thanks to you both for undertaking such a hazardous journey for our benefit to get some bee pics for the Newsletter.

Mick admiring the flowers and bees at the Gandhi Grave site in Delhi

Mick said the bees were really big, and the fact that these nests/swarms are outside and not in cavities, might suggest that they are the Indian giant honey bee, or *Apis dorsata*. *Apis dorsata*, is a honey bee of South and Southeast Asia, found mainly in forested areas such as the Terai of Nepal. They are typically around 17–20 mm (0.7–0.8 in) long. Nests are mainly built in exposed places far off the ground, like on tree limbs, under cliff overhangs, and sometimes on buildings. These social bees are known for their aggressive defense strategies and vicious behaviour when disturbed: https://en.wikipedia.org/wiki/Apis_dorsata

Nice work to stay out of their way.
Thanks Mick and Naomi for the story and pics



Bees at the Mehrangarh Fort in Jodphur

## *Shop etiquette – in this Covid-19 era, please consider the welfare of all members*

Email orders will be serviced – but walk in orders will not be completed.
Pre-order by email to shop@beesnorth.com.au; please do not send your order to info@beesnorth.com.au
Wait till after 9:00am to come to the shop; park outside in Rendle St, do not come in to the Shop

**Ed's comment:** Dear Club members who utilize the fantastic opportunity that our volunteer shopkeepers provide. If we do not wish to see this service reduced or limited we need to show a lot more consideration for those people providing this service. If we burn them out, we might not have this excellent service and convenience. If we do not comply with isolating guidelines, we may not be able to continue.

For your consideration, I outline some current COVID -19 **Golden Rules for the Club Shop**:
Please:

1. Order **before** the opening day by email: shop@beesnorth.com.au
2. Arrive at the Shop **after** 9:00 am
3. Phone on your arrival, wait for the go ahead to drive to the shop door – one order at a time.
4. Your order will placed in your vehicle – do not get out of the car.
5. Depart straight away to allow others to do their pick up – do not stop at the Shop to chat about bees
6. Non-emailed orders may not get any attention if the Shop is too busy.
7. Do not panic – wash your hands, don't touch your face.
8. We do not sell toilet paper (Reward for the brave person who wears this dress in public – see photo on right)

## *News from the library*

Next meeting, whenever that may bee, come and check out our library collection, have a browse and borrow a book, video or magazine.
You can see what's available by looking at our new fancy website library listing with photos at : http://beesnorth.com.au/pages/Library.htm

Stay safe everyone, and **PLEASE RETURN THOSE BORROWED BOOKS AND MAGS** (Ed's highlight).

Beryl Smart

## *Bees on the internet*

A roundup of interesting articles on the internet about bees.

- ABA Newsletter: https://beeaware.org.au/subscribe-to-newsletter/
- More Asian Giant Hornets in the USA: https://www.9news.com.au/world/giant-murder-hornets-return-us/a668d96b-440a-435f-9a0c-820567eb9151
- European wasps in Australia are harassing the dingoes: https://theconversation.com/forget-murder-hornets-european-wasps-in-australia-decapitate-flies-and-bully-dingoes-139476
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## *TDBAI Club activities*

- Beginner Beekeeper Course for Club members is still on hold – date TBC
- President Mick has been pursuing options for a Clubhouse with TCC, and he has some progress that will be outlined soon. Mick has also obtained permission for the Club to do a pre-burn inspection of Council land in order to identify and rescue any native bee hives. Mick is co-ordinating the inspection and liaising with TCC

## *General Meeting Minutes: No May Meeting*

## *Welcome to our New Members*

Existing Club Members are encouraged to assist/mentor our Newbees. They have joined the club to learn about bees, so even if you only have limited experience, give them a hand if you can. Invite a Newbee to your hive opening and discuss what's inside the box, let newbies experience hive openings to become more confident, and you will learn more yourself by trying to explain what's going on in there.

New membership will be included in the next Newsletter

## *Sell/Swap/Buy/Help needed*

I will list items for 2 Newsletters only, unless you let me know otherwise. Please drop The Editor editor@beesnorth.com.au a note to indicate whether the items are required to be listed for a longer period.

## *Subscribe to the Bee Aware e-newsletter and stay up to date*

The BeeAware newsletter is an e-newsletter for beekeepers and growers of pollinator-reliant crops, or anyone else simply interested in beekeeping or the pollination of crops. Each newsletter contains the latest in news, research and development, as well as upcoming events relating to honey bee biosecurity and the pollination of horticultural and agricultural crops. Townsville features in Issue 52 due to the latest AHB and Varroa incursion.
https://beeaware.org.au/subscribe-to-newsletter/

## *Annual Membership Fees are due in July/August each year - currently $30/p.a.*
## *Membership fees can be made electronically to:*

Name:- Townsville and District Beekeepers Association BSB:- 633000
Account:- 141466078
Refer :- Please make sure you add your Surname so that your membership can be signed off.

## *Email contacts for the Office Holders 2019/20*

You can use these email contacts for the Office Holders, and hopefully they will have figured out how to access them and will respond ASAP. president@beesnorth.com.au, treasurer@beesnorth.com.au, editor@beesnorth.com.au , shop@beesnorth.com.au, publicityofficer@beesnorth.com.au
And for all web and membership enquiries : info@beesnorth.com.au

## *TDBA Inc Office Holders for 2019/2020*

President: Mick Olsen president@beesnorth.com.au or mick_naomi@bigpond.com
Vice President: Paul Payne trapper4812@gmail.com
Secretary: Waldon Edwards secretary@beesnorth.com.au
Treasurer: Frana McKinstry: treasurer@beesnorth.com.au or franajon@gmail.com
Treasurer's Assistant: Michelle Hasted pexperts@yahoo.com
Membership: Frana McKinstry franajon@gmail.com or info@beesnorth.com.au
Newsletter: Lindsay Trott editor@beesnorth.com.au or trottlindsay@gmail.com
Librarian: Beryl Smart smartberyl@gmail.com
Equipment Stewards: Frana McKinstry and Alan Ziegenfusz shop@beesnorth.com.au
Webmaster: Ray Berkelmans rberkelm@gmail.com
Publicity Officer: Sonya Verburgt sonyaverb@optusnet.com.au

**Committee:**
Ronelle Nord Keith Hunter Shane Grist Tom and Joan Ruddell Michelle Hasted Alan Ziegenfusz

## *Swarm Contact List:*

Please advise editor@beesnorth.com.au if you wish to be removed from this list. Contact me with your name, phone number and suburb if you want to be added to the list.

Sonya Verburgt - Gulliver - 04 0853 0991 Steve and Carla Kersnovske - Kelso - 0417 344 419 Ben Taylor, Douglas/ Riverside Gardens - 4728 4992/ 0428 186 000
Sharene Dougall, Bluewater – 0415426903 Tito Parigi - Magnetic Island - 0418 796 951 Ronelle Nord, Alice River – 0417752622
Duane Saltmer, Alice River - 0400 339 508 Adrian Kirby, Kirwan - 0403 443 141 Mervyn Yule, Charters Towers - 0427 124 126
Amanda Woodcock, Bluewater – 0405784083 Michael O'Connell, Rasmussen - 0402088080 Graham Dalby, Kelso – 0420951929
Stephen Laguna, Kirwan - 0439 089 946

**Swarm List** Please contact Biosecurity Queensland : 13 25 23 for any swarm or strange bee activity in the Townsville region. For all swarm collections, please collect 300 bees or roughly 10% of brood comb and submit to Biosecurity Queensland for pest and disease monitoring.

*New form for "Sugar Shake" results – BQ requesting us to step up on detection tests for Varroa*

Biosecurity Queensland would like beekeepers to fill out this new form below when they do self assessments, such as sugar shaker, drone uncapping or alcohol wash. The form can be filled out manually and sent in reply paid, or it can be emailed. Carla K will also be visiting everyone who would like to practise with the different self assessment types.

# Managed hive test or feral nest/swarm removal form

Please use this form to submit the results of self-assessments and to submit samples from collected feral swarms or nests. Complete the first section and then any other applicable sections. Please use multiple forms if necessary and separate forms for each location tested.

Return forms to, or contact for sample collection – Department of Agriculture and Fisheries: 07 3330 4560

PO Box 1085 Townsville Q 4810 or email varroa@daf.qld.gov.au,

| | |
|---|---|
| Address of collection location | |
| Collector | |
| Collector's phone or email | |
| HIN | |

**Alcohol wash/ sugar shake** (300 bees per hive recommended. Submit sample if anything suspect seen)

| Date tested | Alcohol wash or sugar shake? (AW or SS) | Hive ID and approximate number of bees tested | Anything suspect? (Y or N) | Sample submitted? (Y or N) |
|---|---|---|---|---|
| | | | | |
| | | | | |

**Drone uncapping** (20 drone pupae per hive recommended. Submit sample if anything suspect seen)

| Date tested | Hive ID and approximate number of drone pupae examined | Anything suspect? (Y or N) | Sample submitted? (Y or N) |
|---|---|---|---|
| | | | |

**Feral nest or swarm removed and samples kept for DAF to identify and check for varroa**
(300 bees and several hundred capped brood cells - especially drone brood - recommended)

| Date collected | | Bees submitted? | | Comb submitted? | |
|---|---|---|---|---|---|

**DAF use only - Analysis by NVMEP**

| Case | | Sample | | Date tested | | Tested by | |
|---|---|---|---|---|---|---|---|
| ID result | *Apis cerana* (AHB) | | *Apis mellifera* (EHB) | | Other | Comments | |
| | | | | | | | |
| Varroa seen | | | | | | | |
| Recording | Date | | | By | | | |

Scan to server, email to varroa (cc to manager and SPO), add to VMI2019 (attach scan to result), file hard copy

The Department of Agriculture and Fisheries is collecting the information on this form as a record of surveillance activities conducted under the National Varroa Mite Eradication Program. Summaries of surveillance activities may be provided to the Consultative Committee on Emergency Plant Pests, formed by the Australian Government Department of Agriculture for the purpose of reporting against the Response Plan for the Eradication of *Varroa jacobsoni* from Queensland – 2019 Incident. Any personal information collected will not be disclosed to any other parties unless authorised or required by law.

Queensland Government

# Club Shop Items - 2020 Price List

**These prices are only available to current financial members**

| Item | Price | Item | Price |
|---|---|---|---|
| Jacket - Cotton | 60.00 | Eyelets pkt 50g | 6.00 |
| Jacket - Ventilated | 90.00 | Awl (for picking eyelets) | 5.00 |
| Full Suit - Cotton | 90.00 | S/S Wire x 500gm | 20.00 |
| Full Suit - ventilated | 115.00 | Crimping Tool | 14.00 |
| Replacement veil for vented suit | 25.00 | Bucket Bracket | 10.00 |
| Cowboy hat with veil | 12.00 | Bucket Opener | 7.00 |
| Veil - cotton | 20.00 | Queen Catcher (butterfly clip) | 3.00 |
| Child's full suit | 60.00 | Queen Catcher & Marker (tube) | 8.00 |
| Gloves - pair | 25.00 | Frame Gripper | 10.00 |
| Veil - Native Bee | 3.00 | Frame Hanger | 20.00 |
| | | Bee Feeders | 1.00 |
| Super - 10 Frame | 28.00 | Spring clips, ea | 2.00 |
| Super - 8 frame | 25.00 | | |
| Super - Ideal | 25.00 | Gate valve - Nuplas | 12.00 |
| Super - WSP | 25.00 | Gate valve - Parker | 30.00 |
| Lids (8 or 10 Frame) | 27.00 | Gate Valve S/S | 35.00 |
| Lids (8 or 10 Frame) pre-assembled | 35.00 | Gate valve O rings - Parker | 7.00 |
| Base - Ply (8 or 10 frame) | 22.00 | Cappings knife, serrated | 15.00 |
| Base - Mesh | 35.00 | Cappings knife, electric | 45.00 |
| Mesh sheet (for base construction) | 15.00 | Comb scratcher | 8.00 |
| Lifting Cleats (Handles, pair) | 5.00 | Strainer | 26.00 |
| | | Scales | 12.00 |
| Nuplas Super 10 Fr | 40.00 | Extractor - Plastic | 140.00 |
| Nuplas Super 8 Fr | 40.00 | | |
| Nuplas Super - Ideal | 35.00 | Honey jars 250gm | 0.70 |
| Nuplas Lid, 8 or 10 Fr | 38.00 | Honey jars 500gm square | 0.80 |
| Nuplas Base, 8 or 10 Fr | 45.00 | Honey Jars Squeeze 550g | 0.80 |
| Nuplas 10 Fr set: 1 x super, lid & base | 120.00 | Honey Jars 1 kg | 1.00 |
| Nuplas cleats | 10.00 | Honey Pails - 1 kg | 1.20 |
| Nuplas oil tray & frame | 28.00 | Honey Pails - 1.5kg | 1.30 |
| Hive Doctor plastic base | 55.00 | Honey bottle 2.8kg (2 litre) | 0.80 |
| Beetle Buster Base (8 or 10) | 100.00 | Glass jars 500g | 1.00 |
| 4 Frame Nuc Box | 65.00 | | |
| 5 Frame Nuc Box | 70.00 | **TRAPS** | |
| Corflute Nuc boxes | 28.00 | Apithor trap | 8.00 |
| | | Silver Bullet trap | 8.00 |
| Hive tool (S/S) | 15.00 | Diatomaceous Earth per pack | 4.00 |
| Smoker | 35.00 | | |
| Smoker - Beeco | 85.00 | **BOOKS** | |
| Bee Brush | 10.00 | Managing AFB | 0.00 |
| Emlok - hive clamp | 14.00 | ABC of Beekeeping in Tropics | 25.00 |
| Hive Handle (galvanised) | 12.00 | Australian Beekeeping Manual | 35.00 |
| Queen Excluder - Wire (8 or 10 frame) | 22.00 | Australian Native Bee Book | 25.00 |
| Queen Excluder - Plastic | 12.00 | | |
| Queen Excluder scraper | 10.00 | Honey Labels ($5 for 50) or roll | 25.00 |
| | | Nutrition panel labels (per roll) | 20.00 |
| Frames - Full depth | 2.00 | Posca Queen marking pen | 5.00 |
| Frames - Full depth, prewired | 4.00 | Warning Sign | 10.00 |
| Frames - Ideal | 1.50 | Bee Poster | 20.00 |
| Frames - WSP | 1.50 | AFB test kit | 0.00 |
| Foundation - Plastic | 2.10 | | |
| Foundation - Wax, per sheet | 2.40 | Club Polo Shirts | 40.00 |
| WSP or Ideal foundation (plastic) | 2.00 | Club Polo Shirts L/S | 45.00 |
| Wax Embedding tool | 45.00 | Club hats with logo | 15.00 |
| Block beeswax, per Kg | 22.00 | | |
| | | | |

## *TDBA Bee Starter Kit - $160*

***The Perfect Gift for a budding Beekeeper***

***Available in Townsville from the Club Shop:***

***Club Members Price Only!  $160***

*Hive tool, brush, vented jacket/veil, gloves, and smoker*

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