



Sticky Fingers

Far North Coast Beekeepers Inc.

The official newsletter of the Far North Coast Beekeepers Inc. Est. 2020

Website: www.beekeepers.asn.au/far-north-coast

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Editor Jenna Vos

Them versus Us and the Bee Gut Microbiome

Have you ever wondered how bees can tell the difference between friend or foe ie. bees from their hive versus bees from another hive? In the past we have been told about pheromones they give off from their nasonov gland located on the top rear end of the workers abdomen. You probably have observed how some worker bees will face the entrance of the hive with their abdomens raised, fanning their wings and giving off the homing scent to their compatriots. The queen, drone and workers release these chemical messengers to address various situations in the hive. Apparently this pheromone profile is distinctive to each particular hive.

Nature versus Nurture. How do bees acquire this pheromone profile (science speak calls this the cuticular hydrocarbon profile (CHC's)). There is a particular genetic variant present in each hive due to the progeny produced by the queen but apparently the colony environment is also a contributing factor to this pheromone profile. The colony environment is determined by the gut microbiome profile of the bees in that particular colony.continued page 3.

Covid-19 Regulations and Restrictions

Please practice physical distancing when attending any gathering and abide by the most recent advice given by Australian Government Health www.health.gov.au

Date Savers and Activities undertaken

Tuesday 27th April 2021 18h00: Committee meeting: RSL Casino, Casino NSW 2470;

Sunday 16th May 2021 World Bee Day 7h30h -14h30 Lismore Carboot Market Stand

Saturday 12th June 2021 18h30 for 9h00 start - 12h00 Field Day "The Sheds," #40 Trevans Road, Lismore NSW 2480

Focus: A hive inspection will be undertaken. A demonstration of anything to do with wax will be held eg. cleaning wax cappings, wax polish, wax moulding, wax wraps etc.

What to bring: A veil and protective gear for viewing the apiary - all other bee gear will be provided, your own chair and cup and something to share – two gazebos, two tables and an urn will be provided with tea, coffee milk and sugar. A Portaloo will also be onsite.

Tuesday 15th June 2021 18h00: Committee meeting: RSL Casino, Casino NSW 2470;

Thursday 1st July 2021 : A Reminder to renew your ABA and club membership on 1st July 2021 – 30th June 2022.. Please check all your contact details and that your default club is of your choice to receive your member pack from ABA.

Presidents Report by Peter Laughton

A good turnout at the field day at our place. Merve demonstrated how to use mats made from lino to winterize our hives. This assists the bees to maintain a core temperature for their brood during the cold weather. We also peeked into a couple of nukes that I had made about 6 weeks before, and found them buzzing, so they were transferred to full size boxes. Lots of pasture grasses are still flowering including the fire weed. I found a couple of boxes with 8 frames full of honey that were not ready when I took honey off about 3 weeks ago, so the workers have been busy. I went through the rest of the apiary and winterized all the other boxes, finding a few issues with no bees in the top supers, so these were removed. I will spin the honey out using the hand spinner at some stage soon. All the stored supers were sealed and a fumigant added to stop the moth destroying the comb whilst in storage.

The morning tea was very welcome and the day finished a bit after lunch time.

Peter



Far North Coast Club news

From our Secretary, Stephen Fowler

The 8th **May Field Day** (late date change due to a clash with Mother's Day on Sunday the 9th) held at Peter Laughton's apiary went well. It left him with plenty of work to winterise his hives. We would also like to thank Peter and Lynn for their hospitality as we did not have the opportunity to do so at the time. Peter's children were involved in the Grand Opening of the new bridge The Department of Roads had finally finished, so they had a very busy day juggling both projects.

16th **May Sunday World Bee Day** stand at the **Lismore Carboot Market** went well. A bit slow early on but picked up later so thanks to all those that helped out. We got our name out there and it was noticed. So a great job all.

At our general meeting held on the 19th **April** the club was invited to help as volunteers at the **New South Wales Apiarists' Association Inc. (NSWAA)** stand for commercial beekeepers at the **Norco Primex – Australia's Sustainable Farming Expo** from 20-22nd May in Casino. Due to other FNC commitments it was left to any willing individual to volunteer. FNC is looking to hire their own individual stand for the **Norco Primex Farming Expo 2022** in Casino next year. A steering committee will be formed. Let us know if you are keen to be part of this project.

See you all at the next meeting where it will be all about wax, the how and the what.

Stephen

Far North Coast Beekeepers Inc Committee

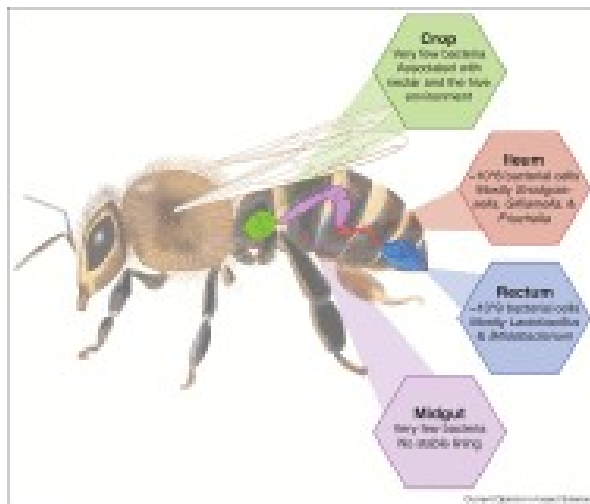
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Cont. from p.1

The microbiome of a bee is similar in nature to the human microbiome. We, as humans, live with commensal bacteria, good and bad, in our small and large intestines. Initially we acquire this from our mothers at birth and through breastfeeding and thereafter from our environment. These microorganisms help us digest our food and supply us with essential fatty acids amongst other benefits. In the same way eggs laid by the queen are fed by nurse bees who inoculate the feeding tract of the larvae with the required microorganisms with the colony specific gut microbial communities eg. colony specific microbiome.

The microbiome in a bee gut is the most prolific in the ileum and the rectum very similar to humans. The specialised bacteria in the ileum help the breakdown of the nectar sugars and pollen into glucose, fructose plus short chain fatty acids (SPCA's) respectively.

It is these microbes that create the precursors to building the CHC's ie. the pheromones. Each hive has it's own profile of microbes thus allowing pheromonal nestmate recognition. Studies have shown that sister bees reared in different hives identify each other as foes. Antibiotics and sugar feeding does disturb this microbiome in humans as well as bees.



Footnote:

All information has been sourced from <https://advances.sciencemag.org/content/6/42/eabd3431> and various other abstracts from research papers addressing the bee microbiome.

Notes from the Editor:

If there is any subject matter you would like to see in the newsletter please contact us on email. I would love some feedback regarding form and subject matter

Hosting a Field Day

We would love to visit your yard and/or apiary for one of our field days. Please get in touch with the Secretary Stephen Fowler to discuss details and dates.

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