THE MARIN BEEK NEWS

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What's the Buzz?

There is no regular meeting of the Marin County Beekeepers in August. Instead, please plan to join us on August 24th, starting at 6 pm, at the home of Neil and Mary Nordquist, 2072 Hatch Road, Novato, CA for the annual potluck dinner. Sign up will be online again this year. Go to: http://marinbees.org/wp and click on Club Resources for more information on the event and to sign up to bring a dish. *Everyone should bring their own plates, utensils and drinking glasses*. This is a **GREEN "ZERO WASTE" EVENT**. All items should be brought in a reusable or recyclable/compostable container. Please plan on taking your recyclables / compostables / garbage with you when you leave the event.

Directions to Neil and Mary Nordquist, 2072 Hatch Road, Novato:

Take the San Marin Drive/ Atherton Avenue exit from US101. Turn west onto San Marin Drive.

Continue on San Marin Drive to Simmons Lane, the first stop sign. Turn left onto Simmons Lane. Follow until you come to a stop light at a T-junction with Novato Boulevard. Turn right onto Novato Boulevard and then make a left turn at the next light onto Wilson Avenue. Follow Wilson for approximately 1 1/4 miles.

There will be stop signs at Center and Vineyard Roads on the way. Hatch Rd will be a right turn shortly after Wilson narrows.

The Nordquists are 1/4 mile down Hatch Road on the right. 2072 is on the mailbox just before the gate. Please park on the street and walk in through the gate.

There will Be Ice Cream!

What You Missed

Our last meeting featured a talk by Dr. Tom Seeley, Department of Neurobiology and Behavior, Cornell University. His talk was titled "Darwinian Beekeeping, An Evolutionary Approach to Apiculture."

Langstroth and Darwin were contemporaries. Langstroth was the inventor of the movable frame hive. Darwin was a great admirer of comb building: "the most wonderful of all instincts."

Both had important insights that can help us with beekeeping today

Langstroth – movable frame
Darwin – theory of evolution

Evolution by natural selection

Evolution of pesticide resistance – varroa has developed a resistance to Apistan.

How does Darwin's concept of natural selection apply to honey bees?

Everything that colonies do when they are living on their own (not managed) is done to favor their survival and reproduction.

Darwin Bees are superb beekeepers.

Darwinian beekeeping – allow the bees to use all their instincts fully.

Haven't wild colonies been killed off?
Can we simply let the bees be the beekeeper?

In 2002 Tom tested the belief that all the wild colonies have been killed off: no, wild colonies are thriving in remote places.

Places where wild colonies are thriving (with mites but no treatment)

Forest south of Ithaca NY
Gotland Island, Sweden
Forest outside of Inverness Scotland
Llyn peninsula Wales – beekeepers independently decided to stop treatment for mites
Isle de Girouz, France
Forest outside Toulouse, France (Kefuss colonies)
South of Ithaca -Finger Lakes region, central New York (Arnot Forest)

Tom has been studying the bees in the Arnot Forest since 1978. It is the one place in North America with data on wild colony abundance before the arrival of varroa (circa 1994)

Before 1978 there were 2.8 colonies per square mile.

How does one locate wild colonies? – Bee hunting (bee lining), Dr. Seely wrote a book on this. Bee hunting is a great compliment to beekeeping. Get to experience bees on a more personal/individual level.

The result of hunting in the Arnot forest in 2002 – the density still turned out to be 2.8 colonies per square mile.

Dr. Seely didn't know if they were living with varroa. He put out bait hives and captured 11 colonies. All of them had varroa.

The Arnot Forest bees: survivor bees. We can learn from the wild colonies. This is what Dr. Seely terms Darwinian beekeeping. "Apicentric beekeeping" Bee-friendly beekeeping.

In 1978 there were 28 queen lines in the forest, in 2002 there were only three.

Darwinian beekeeping is not for large scale or urban beekeepers. It is an option for small scale beekeepers that have access to a fair amount of space.

Key point for understanding how Darwinian Beekeeping (DB) works:

Original environment – in which wild colonies live
Current circumstance – in which managed colonies live

- Original environment - Colonies are genetically adapted to their location.
- Current circumstance – colonies are not genetically adapted to their location. Queen breeders tend to draw from a small genetic pool

- Original environment – colonies live widely spaced in woods
- Current circumstance – colonies live in crowded apiaries

- Original environment – colonies live in small nest cavities (about 1 deep hive body) and swarm freely
- Current circumstance – colonies live in super-sized nest cavities (multi-story) and swarm rarely

- Original environment – nest cavity walls are coated with propolis
- Current circumstance – hive walls not coated with propolis

- Original environment – colonies build drone comb freely, produce many drones
- Current circumstance – colonies are discouraged from building drone comb, produce fewer drones

- Original environment – nest entrance is high off the ground (25 ft. avg.)
- Current circumstance – nest entrance is low to ground (< foot)

- Original environment – colonies have diverse pollen sources
- Current circumstance – sometimes have few pollen sources

- Original environment – not treated for disease
- Current circumstance – are often treated for disease

Darwinian Beekeeping:

Insofar as possible, put managed colonies back in the

See What You Missed continued on Page 4

Hive Tips

By Bonnie Morse, Bonnie Bee & Company

We're finally getting a reprieve from the yellow jacket problems of the last few years. Nonetheless, this is the time of year when their populations will peak and they can cause a problem for bee colonies.

They can be seen around many apiaries now hauling off dead and weak bees around hives. While this activity can be beneficial, it is prudent to keep an eye out. If you see yellow jackets entering healthy hives, it would be a good time to reduce entrances (or add a robber screen) to help make it easier for the colony to protect itself. If the population (and cluster size) of your colony is already reducing in preparation for winter, it may be time to consider harvesting excess honey or removing unneeded boxes to reduce amount of space the bees need to defend.

Do NOT hang yellowjacket traps on or near your hives. The pheromones that help lure the yellowjackets into the trap may actually be attracting more yellowjackets to your apiary.

A fake hornets nest can be hung nearby to try to discourage them. This can be in the form of a paper bag. We've had mixed results with this, but hey – it's just a crumbled up paper bag so it's inexpensive and worth a try if you're having trouble. You can also pick up a "wasp scarer"….a slightly more impressive looking fake hornet's nest….from the Fairfax Backyard Farmer. A plate or bowl with balsamic vinegar may also help to deter.

Robbing by other bees tends to become more problematic at this time of year. If you have a smaller colony, keep an eye out and perhaps consider reducing the entrance (if you haven't done so already) to help make it easier for the colony to protect itself. If robbing starts, you need to stop it immediately. Some good suggestions for options on how to do so are available on the website of Michael Bush: http://www.bushfarms.com/beesrobbing.htm

Comb building is done for the season

While there are places in the county where some bees seem to be finding the nectar resources to build a little new comb, in general, comb building is done for the season by this time of year. Don't expect bees to be able to build out on new frames.

If your bees have a lot of honey, you might consider extracting some now and returning the wet frames to them so they can refill with more nectar.

Varroa mites. Now is the time to start monitoring your mite levels, if you haven't started already. As fall approaches, we tend to see decreasing colony populations and increasing varroa mite populations. This can be a deadly combination for your colonies. "But we're hardly into summer!" you might be saying. While that may be true, mite numbers are building up now – or may be building up now in your colony.

By regularly monitoring the levels of mite infestations in your colonies, you'll have a better idea if high mite levels are due to your bees inability to deal with mites in the colony (which some bees do through hygienic behavior (often observed as uncapped pupae), grooming, broodless periods, etc.) or whether a sudden spike this fall might be due to your colony finding and robbing out a nearby crashing hive.

Information on how to do a sugar roll to determine varroa infestation % is available from the University of Minnesota

There are passionate voices on both sides of the debate on whether to treat or not to treat. There is logical reasoning on the pros and cons on both sides. Keep in mind that your bees' problems could quickly become another hives problem. And because of the increasing number of beekeepers – and increasing hive density, particularly in some neighborhoods - a moderate approach to consider would be to treat if mite levels go above a certain threshold. If your bees have shown no method of resistance (you should be looking for it every time you inspect), you might consider requeening the colony with more resistant stock when that option next becomes available. If you have been monitoring your bees and they have shown mite resistance, you might consider a treatment as a way to help them reduce the number of introduced mites, but consider giving their queen another chance.

Visit www.scientificbeekeeping.com for information from Randy Oliver on treatment options and application information. Get as much information as possible on the pros/cons of different approaches before/if you decide to treat for mites.

Seeing queen cells? Not just cups, but cells with larvae floating in royal jelly. This is the time of year when bees may supersede their queen prior to winter. Hoping the smart bees know that swarming would be a suicide mission at this time of year :-) In preparation for winter, you may also notice more propolis in the hive and a reduced rate of laying by the queen, observed as bees fill cells in the brood area with nectar rather than allowing the queen to lay eggs once brood has emerged.

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honey bee original environment

1. Keep bees that are adapted to our location
    a. Rear queens from your best survivors or capture swarms with bait hives in remote locations, Bait hive: 5-frame hive works well
    or
    b. Purchase queens from a queen breeder who produces locally adapted queens.

2. House your colonies in small hives (one deep hive body + one shallow super over Q excluder (extract honey or produce comb honey.
    a. Colonies will swarm, 83% survival even without mite treatments.

3. Space your colonies as widely as possible
    a. Less drift of bees between colonies
    b. Less spread of mites between colonies

4. Better survival of colonies all were untreated and provided by Oliveres.

5. Crowded colonies – 0 alive after two years. Spread out – 5 alive after two years (30 – 50 meter spacing)

6. Line your hives with propolis screen.

7. Provide your most resilient bees with more drone comb

8. Keep nest structure intact. Put each frame back in original place in original orientation no reversing of bee boxes.

9. Provide just a small entrance at the bottom and add Styrofoam. No top entrance (bees work hard to close top openings with propolis). Condensation in hive is the bees' water source in winter.

10. Do not disturb colonies in winter, no checking, no stimulative feeding, no pollen patties. Intrusion can cause the bees to raise their energy level for hours.

11. Refrain from treating colonies for varroa.
    a. Requires you to be super diligent
    b. Have to destroy or re-queen colonies that are failing due to varroa.

Colony survival -

Darwinian Beekeeping works in Ithaca, NY where Dr. Seely conducts most of his studies.

Ithaca, NY is a location with no commercial beekeeping but lots of forest with wild colonies. It is a Darwinian black box.

He conducted a study from 2010 to 2016 using 25-30 genetically diverse colonies. It is a remote location so queens can mate with drones within the population. There was no varroa control. He only selected for survival not a particular trait; only survival and reproduction.

He experienced the following survival rates:
Summer survival: 97%
Winter survival: 84%
Overall: 82%

Dr. Seely suggested that for more on his research with wild colonies that you read his book, "The Lives of Bees: The Untold Story of the Honey Bee in the Wild".

Fair News

County Fair Bee Booth

Thanks to everyone for another successful County Fair Honey Bee Exhibit. As always, there was significant interest and questions.

Thanks to Dave Peterson and Bonnie and Gary Morse for suppling the observation hives. Marina Wright and

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Rob and Karen Tysinger for setting up. Peter Bauer for opening and coloring books and crayons. West End Nursery in San Rafael for the loan of bee friendly plants that add color and interest to the exhibit. Remember them when you are thinking of your nursery/plant needs. Bee coloring pictures was a well-received addition this year. Any suggestions for next year would be appreciated. Please send along any other suggestions or comments to help improve next year's display. See you at the pot luck.

Results from the competition will be posted in next month's newsletter.

Dan Stralka

Note from the editor:

Huge thanks to Dan and Judy Stralka for organizing, setting up, and tearing down of the bee booth once again.

Bee Classes

The Hows of Honey
(Sunday, August 18, 9am – 12pm, $60)

All you need to know: how much you can harvest, how to collect from hive, how to extract, how to clean up, and how to process cappings.
Location: The Fairfax Backyard Farmer, 135 Bolinas Rd, Fairfax.
Register through The Fairfax Backyard Farmer

Overwintering Your Bees
(Saturday, September 28, 9am – 12:00pm, $60)

Preparing for winter, how to handle common winter problems, how to clean up / store equipment.
Location: The Fairfax Backyard Farmer, 135 Bolinas Rd, Fairfax.
Register through The Fairfax Backyard Farmer

Beauty from the Hive
(Saturday, November 9, 9:00am – 12:00pm, $85, includes materials fee)

Using the recipes from Janice Cox's books and ingredients from the hive, we will make: 1) Bath bombs, 2) Bath salts, 3) Hand cream, 4) Lip balm. You will get to take home your creations.