

# THE MARIN BEEK NEWS

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## What You Missed

Our September meeting featured a presentation by Diana Sammataro, PhD Ohio State University, Dr. Sammataro is co-author of the "Beekeeper's Handbook". Dr. Sammataro's talk was titled "Varroa: Meet the Enemy".

There are many external parasitic bee mites that Apis hosts. Varroa is our biggest problem. Tropilaelaps mites are potentially on the horizon.

There are four known species of Varroa. We're dealing with V. destructor.

Varroa is spread by beekeepers moving bees around. It is possibly beekeepers in Florida who smuggled bees in from Europe who introduced it to the US.

Varroa life cycle:

- Can only live on honeybees.
- Mother hides in larvae at day 9
- Mother mite lays eggs. The first of which is male. Remaining are daughters and are laid every 30 hours.
- If laid in worker brood, 1.5 daughters live per cycle
- If in drone brood (which is really the nursery of mite reproduction), 2+ daughters live per cycle.

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## What's the Buzz?

Our next meeting will be on Thursday October 6, 2016 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA. starting at 7:30 pm. The meeting will feature a talk by Claire Kremen, PhD, Duke University, Dr. Kremen is a professor of Arthropod Biodiversity, Department of Environmental Sciences, Policy, and Management, University of California, Berkeley. She will be talking about how honeybees and native bees interact.

### Upcoming Meetings:

#### November 3, 2016

Susan Kegley, PhD, University of North Carolina at Chapel Hill, Dr. Kegley is Principal and CEO of the Pesticide Research Institute. Dr. Kegley's talk is entitled "Effects of Pesticides, Pathogens, and Mites on Honey Bee Colony Health".

#### December 1, 2016

Marion Ellis, PhD, University of Nebraska, Dr. Ellis is a professor of Entomology at the University of Nebraska, Lincoln, NE. He will discuss the use of formic acid.

#### January 5, 2017

Bernardo Nino, staff research associate, Department of Entomology, University of California, Davis, CA.

#### February 2, 2017

Les Eccles, Ontario Tech Transfer Program Lead.

#### March 2, 2017

Ross Conrad, beekeeper and owner of Dancing Bee Gardens, Middlebury, CT. He will speak about CCD and Organic Solutions. Workshops will be scheduled for Saturday.

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Many mites – including varroa breed with sons.

Adult females live on adult bees for an average of 1 week between attempts at reproduction in brood cells.

Each mite will produce 3-4 daughters and 1 son when reproducing in a worker brood cell. Only 1-2 daughters will reach maturity before bee emerges.

Varroa on adult bees: Adult bees serve as intermediate hosts when there is no brood available. Varro mites attach to adult bees between abdomen segments or between body regions.

Signs of Varroa: In a healthy colony, brood area will be compact and you won't see deformed wing virus (DWV) on workers. In a colony in distress, you may have visible signs in the brood (including PMS), cappings have holes, bees may be dragging out pupae.

Understanding Varroa: Varroa have a lot of the same proteins that are in ticks. The salivary glands may contain viruses. If that could be controlled, there would likely be less bee death.

Effects of varroa feeding on adult bees: Consumption of hemolymph. Changes immune response in bees (which isn't good to begin with). Introduction of viruses – 18 identified to date. Changes cuticular hydrocarbon (CHC) profiles of the bees themselves.

Diagnosing varroa mites and estimating mite density.

- 1) Ether or sugar rolls (Ether will kill the bees sampled, sugar roll will not)
  - a. Note: ether is flammable
  - b. Can also do a soapy water wash, which is safer than ether but also kills the bees. Must rinse bees to make sure mites drop off and then count on paper.
  - c. Sugar rolls: shake onto white paper (or plate) and spray with water to dissolve sugar
- 2) Brood examination
  - a. Drone brood best. You can open with capping scratcher that you slide under the cappings then pull up.
  - b. Problem: Hard to count, but gives an idea of how bad. Recommended only as last resort.
- 3) Sticky boards – but might not be as accurate.
  - a. Least intrusive
  - b. Insert sticky board for 1-3 days
  - c. Not so much #'s that matter as it is the changes in numbers overtime.
  - d. Why are the mites on the board? They are falling down all the time or they are getting groomed off.

**KEEP RECORDS!!** Important to write notes down.

Factors influencing mite population:

- Time of year
- Colony size
- Hygienic behavior of the bees
- Treatments
- Amount of brood
- Amount of drone brood

When to test? Early detection offers best opportunity for varroa control. Frequency of colony testing? If mite populations are low, 2x per year. If mite populations are high, every 2 months (excluding winter).

Estimating mite numbers in a sugar shake: Density of mites per 100 bees in individual colonies with correction factor of 2. For greater precision, examine 3 x 300 sample units.

8% infestation level probably OK. Sampling apiaries = sample 10% of the colonies.

If > 10-12%, a control will be needed or colony will most likely be lost.

10 – 12% is a grey area

<8, probably no treatment needed.

**Thanks to Bonnie Morse for providing her notes for "What You Missed".**

#### **April 6, 2017**

Charlie Blevin, beekeeper, San Francisco, CA. He will discuss swarms and extractions.

#### **May 4, 2017**

Randy Oliver. Workshops will be scheduled for Saturday.

#### **June 1, 2017**

Gadgets and Gizmos

#### **July**

No meeting: Marin County Fair.

#### **August**

No meeting: Marin Beekeepers Annual Potluck.

## Hive Tips

By Bonnie Morse, [Bonnie Bee & Company](#)

### Reducing Hive Size

Temperatures are starting to drop and your beekeeping season is winding down. It is time to start thinking about winter preparations, if you haven't already (though the bees have been getting ready for months). Remove unused space and unneeded honey so the bees will not have to work as hard to keep warm. In our area, bees need about 30 lbs. of honey per colony going into the winter. For smaller colonies, a guide would be to have about 50% food / 50% brood. And for those smaller colonies, you might consider replacing empty frames around the food/bees with follower boards.

If you have a box on top of the hive that has no (or very little) built out comb on the frames, it needs to come off for winter. It is highly unlikely the bees will be building comb up there until February or later and that is a lot of dead air space where heat generated by the cluster will escape to...which means the bees will be using a lot more food stores to try to keep the colony warm.

### Where are all the drones?

If you've been keeping bees for at least a couple of years, you may have noticed that frequently colonies in Marin have drones through the fall. It has not been uncommon in San Rafael to have queens mating into mid-November. The last couple of seasons have been very different.

What does this mean to you? If you have a colony that supersedes the queen this fall, the new queen may have difficulty mating, or getting well mated. It also means you should be particularly careful during hive inspections as a colony may have a more difficult time replacing a killed or injured queen despite weather that would make mating flights possible.

### American Foulbrood

Just to keep this on everyone's radar....another case of AFB was found in Marin recently.

With so many new beekeepers and increasing hive density, it is imperative that we all continue to keep on the lookout and act quickly.

Because of the highly contagious nature of the disease, if you have a colony perish, it is important to secure the hive in a bee proof place (like garage) until you can determine the cause of death. Chances are,

it will be mite and mite vectored disease related, but you can't risk the chance of it being something worse and having an AFB infected colony get robbed out. Our bees are all flying pretty far....so (like it or not) we're all in this together.

Don't know how to diagnose your dead out? Don't be afraid to ask for help! Post pictures to the Buzz, or ask a beekeeping friend to look at your hive, bring a frame or two (in a clear plastic bag) to a Marin Beekeepers meeting, etc.

If you do discover your hive has been infected, you need to burn it. Antibiotics will only affect the vegetative stage. Spores can remain viable for decades. Contact Richard Hyde ([rh@hyderanches.com](mailto:rh@hyderanches.com)) or Bonnie Morse ([bonniebmorse10@gmail.com](mailto:bonniebmorse10@gmail.com)) if you need assistance in finding an incineration option.

Get educated. Stay vigilant. Help us keep all our bees healthy!



Time to Clean Up Equipment for Winter Storage

## From the Librarian's Desk

Our newest additions to the library include a wonderful collection of poems entitled "If Bees Are Few" and an additional copy of "California Bees & Blooms" by Gordon Frankie & friends. Many thanks to Dan Stralka and Diana Sammataro for their generous donations. Stop by & check them out (literally) on Thursday.

I'm looking for a volunteer to take care of the library at the November meeting (11/3). If you are interested, please stop by the library table & let me know.

See you Thursday!

Cheers,  
Marina

## Mites, mites and more mites!



One thing is clear – it's a bad year for mites! Using sugar rolls, the infestation %s are looking to be much higher than last season.

It's not too late to start checking. Not sure how? We'll be teaching that in the fall and winter hive management class series starting this Wed. 9/28 at the San Rafael Community Center (more info below).

You really can't tell just by looking at a colony how bad the mites are. Sure – you know you have a problem with a significantly decreased adult population and when you see sick larvae and discolored uncapped pupae. But don't be fooled by what appears to be a thriving colony with frames of apparently healthy brood. You never know what is lurking under those brood cappings unless you check. As we saw with the two years of data collected in the broodless study, monitoring boards under screened bottom boards may not give you an accurate reflection of what's going on the hive. Sugar rolls (or alcohol washes) are important tools for determining you level of infestation.

If you don't know, don't be surprised when your colony is suddenly gone this fall.

## Beekeeping Classes

Upcoming classes with  
Bonnie Morse, Bonnie Bee & Company:

### Fall and Winter Hive Management

The majority of annual hive losses occur between October and December. We review the reasons for this – primarily varroa mites. Other management

issues that occur when temperatures start to cool include feeding, managing space, moisture management, how to inspect hives with minimal time / intrusion, and off-season queen issues / solutions.

Classroom sessions, Wednesdays, 9/28 & 10/5, 6:30pm – 8:30pm, location: San Rafael Community Center

Field Workshop, Saturday, 10/8, 9:30am – 12:30pm, location TBA

\$80 or \$30 drop in for classroom sessions, \$40 drop in for field workshop

Register through the [San Rafael Community Center](#)

### Backyard Beekeeping

Considering becoming a beekeeper? Take the first step by learning about this fascinating and important pollinator. This is a great time of year for new beekeepers to start planning so equipment is ready and bees are ordered in time for the 2016 season.

In this class, you'll learn about the roles of the queen, workers and drones within a colony and how they interact with seasonal cycles. Learn about basic considerations you'll need to take into account before jumping into this exciting new hobby including where to place your hive, equipment options and sources, bee sources, and time required.

At the end of class, you'll have the opportunity to sample some local honeys from around Marin County.

Saturday, 11/5, 9:30am – 12:30pm, \$40, limited to 12 participants.

Location: The Fairfax Backyard Farmer

Register at <http://www.fairfaxbackyardfarmer.com/>

Save the dates! Registration will be open on November 10th through the San Rafael Community Center.

**Beginner Series:** 9 hours, \$99. classroom sessions will include basic bee information, seasonal cycles of a colony, equipment options, where to place your hive, how to get bees and tips on working with your equipment. When the weather warms up, there will be a field session so you can observe and practice working with your tools and bees.

Class room sessions: Wednesdays, Jan. 25, Feb. 1, Feb 8, 6:30pm - 8:30pm (3 classes, course code 26357, drop in fee = \$30/class)

[San Rafael Community Center](#), 618 B St., San Rafael

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Field Day: Sat., Mar. 11<sup>th</sup>, 9:30am – 12:30pm (drop in fee = \$40)

**Intermediate Series:** You've got your colony through winter (or not) - now what? Class sessions will include how to clean up your equipment, expanding hive size for spring, swarm prevention- and if that fails, swarm capture, setting up bait hives for swarms, identification of common pest and diseases and management options for them. Topics will also include dealing with special situations: aggressive hives, queen failures, and laying workers. Field day will include information on how to split a colony, pest and disease ID, and swarm prevention.

Classroom sessions: Wednesdays Feb 15, Feb 22, March 1, 6:30pm - 8:30pm, 3 classes, course code 26356, drop in fee = \$30/class  
[San Rafael Community Center](#), 618 B St., San Rafael

Field Day: Sat., Mar. 11<sup>th</sup>, 1:30pm – 4:30pm (drop in fee = \$40)

## Extraction Party at Peterson's

Setting up to do your own honey extraction for a small number of frames can be very time consuming, messy and generally a lot of work. For this reason Club Member, David Peterson, hosts a fall Extraction Party in his "Honey House" (his garage) in Ross, now a ten-year tradition.

Over the weekend of September 24 & 25 there were 17 participating Club Members. There were also three others that were new beekeepers with no frames to extract but just came to observe. Several NewBees only had a few frames to extract while others came with two or three supers of full frames. More than 265 frames were run through the Club's extractor resulting in about 400 pounds of honey.

With the larger turn out this year, two extracting stations were set up – one with the 12 frame and the other with the six frame extractor. Dave sets up the extraction equipment in the garage since getting kicked out of the kitchen where he originally extracted by crushing and rendering. He reported his 21 hives produced over 500 pounds of honey this year – down from 850 pounds in previous years. He extracted some

450 frames in advance of hosting the weekend Extraction Party.

Dave stores and schedules some of the Club's extraction equipment at his place, both a 6 frame and a 12 frame. Rob Tysinger stores a second 6 frame extractor in Novato and the Nordquists store the Club's 20 frame extractor. This equipment is available for use by all Club Members and can be reserved by contacting him at [dpeterson307@aol.com](mailto:dpeterson307@aol.com), Rob at [rob@tysingerengineers.us](mailto:rob@tysingerengineers.us) or Neil at [neilmary@verizon.net](mailto:neilmary@verizon.net).

Generally it requires a station wagon, SUV, van or truck to transport the extractors. A truck is required for the 20 frame machine. Club Members can check them out for use a few days at a time. There is also an electric uncapping knife, a scratcher and uncapping bin available to go with the extractor. The equipment should be picked up, used, cleaned and returned within a few days to a maximum of one week.



Uncapping at the Peterson's "Honey House"

## Bee Audacious Update

Following the Bee Audacious invitational conference, the leaders (Tom Seeley, Marla Spivak, Mark Winston, Jim Frazier, Bill Klett, Stephen Martin, Heather Mattila, Chas Mraz, Francis Ratnieks, and Neal Williams) will present the findings at a panel discussion hosted by Dominican University:

Angelico Hall  
20 Olive Ave.  
Dominican University, San Rafael  
December 14, 2016, 7:00pm – 9:00p

[Tickets are available](#) for \$20 per person through Eventbrite.

More info available at [www.beeaudacious.com](http://www.beeaudacious.com)

Book signings of Bee Audacious leader and participant authors will follow the panel discussion. Book sales will be available through Book Passage bookstore in advance as well as at the event. Books include:

- Honeybee Democracy” by Tom Seeley
- “Following the Wild Bees: The Craft and Science of Bee Hunting” by Tom Seeley
- “If Bees Are Few: A Hive of Bee Poems”, Edited by James P. Lenfestey, Afterward by Marla Spivak
- “Bee Time: Lessons from the Hive” by Mark Winston
- “Honey Bee Removal: A Step by Step Guide” by Cindy Bee
- “Honey I’m Homemade” by May Berenbaum
- “A Field Guide to Honeybees and Their Maladies” by Maryann Frazier
- “Bees in America: How the Honey Bee Shaped a Nation” by Tammy Horn
- The Xerces Society Guide “Attracting Native Pollinators: Protecting North America’s Bees and Butterflies” by Eric Mader & Mace Vaughan (and Matthew Shepherd, Scott Black, in collaboration with Gretchen LeBuhn
- “The Beekeepers Handbook” Fourth Edition by Diana Sammataro
- “Keeping Bees With a Smile” by Fedor Lazutin, Editor Leo Sharaskin

Feeling audacious? [Bee Progressive](#) has you covered with Bee Audacious t-shirts in navy blue and heather grey. A portion of each sale goes to support the conference.

Participants from 8 countries and 22 states are currently on board to take part in the conference. Larry Brilliant, Chair of the Skoll Global Threats Fund, will be delivering the conference keynote.

## Be a part of the main invitational conference!

A few spots for volunteer note takers are still available.

What you will need:

A lap top computer and fast typing skills and will need to be available Sun. 12/11 at 1:30pm. The conference concludes at 3pm on Tues. 12/13.

What you’ll get:

Meals at Marconi conference center, an opportunity to participate in some of the discussions (when you aren’t needed as a note taker), a ticket to the reception and panel discussion at Dominican University on December 14th.

To volunteer contact Bonnie Morse at [info@beeaudacious.com](mailto:info@beeaudacious.com)