

THE MARIN BEEK NEWS

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November 2013

What You Missed

Our last meeting felt the impact of the federal shutdown. Our scheduled speaker, Dr Jay Evans, was unable to speak at our meeting due to federal regulations regarding work of a furloughed federal employee. His place was graciously and ably filled by Dr. John Hafernik. Dr. Hafernik is a professor of Biology at San Francisco State University. He is also president of the California Academy of Sciences and director of ZomBeeWatch, a citizen science group collecting data on the phorid fly infestation of honey bee colonies.

The “zombie” fly, *Apocephalus borealis*, is a phorid fly that has been found to parasitize honey bees. The fly was discovered on the SF State campus in honey bees under lights. The parasitized bees show “zombie-like” behavior, abandoning their hive during the night and flying towards strong light before dying. They were nicknamed ZomBees by the media.

Dr. Hafernik explained that there are over 4000 species of phorid flies worldwide. Phorid flies include scavengers, herbivores, predators, and parasitoids. Some are nuisance flies and pests of mushroom farms. Some are CSI material, cadaver flies; which are often used to determine time of death of crime victims.

Phorid flies are also used as biocontrols. The USDA introduced phorid flies into the southwest to help control fire ants. Parasitized fire ants also display zombie-like behavior. Phorid flies are also called decapitating flies because they pop the head off the ant when they emerge.

The specie parasitizing honey bees isn't the same as the one introduced by the USDA for fire ant control.

Dr. Hafernik then spoke about serendipity and science. He was not intent on studying phorid flies and bees but in 2008 he noticed honey bees wandering around on the ground in front of one of the buildings at the University. He collected them to use as food for a praying mantis that he had recently collected. He inadvertently left the vial of bees in his office for week and discovered the fly pupae in the vial along with the dead bees.

Dr Hafernik spoke with Dr Eric Mussen of UC Davis who said he had had reports of bees found under lights. Dr.

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What's the Buzz

Our next meeting will be on Thursday November 7, 2013 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA. starting at 7:30 pm. The meeting will feature a talk by John Kefuss, survivor stock queen breeder from Toulouse, France. His visit to Marin has taken years of planning and through persistence finally materialized. John will be speaking about the process he went through to create a treatment-free apiary and how that might be applied to Marin beekeepers.

Upcoming Meetings:

December 5, 2013

Dr. [Sue Cobey](#), bee breeder and geneticist from Washington State University. Sue has been working on genetic cross-breeding methods to produce more diverse, resilient honey bee subspecies.

January 2, 2014

[Rob Keller](#), local beekeeper and owner of Napa Valley Bee Company. Rob became interested in bees through comb-building pieces for his master's degree in fine art at UC Davis, where he was involved with the Laidlaw Bee Lab.

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Hafernik then noticed the light above where he had collected the bees.

Dr Hafernik then began studying the phorid flies parasitizing honey bees. The female fly will lay 10 to 15 eggs in a bee between the plates of the abdomen. The eggs hatch into maggots and migrate to the wing muscles to feed. The maggots then emerge from the bee, usually just below the head, to pupate elsewhere.

The phorid fly started out as a parasite to bumblebees and yellow jackets and, at some point, jumped over to also parasitize honey bees. He has found that the highest rate of parasitism occurs from September to November. The rate then declines until spring when the buildup begins again.

Dr Hafernik's group is now doing research to try to determine when the parasitized bees leave the hive. Do they leave only at night or also during the day? He feels that phorid flies are probably prevalent in the bay area.

Other questions raised by his research on phorid fly parasitism are 1) Is it an emerging problem? 2) Has it gone unnoticed for a long time? 3) Can it be linked to Colony Collapse Disorder (CCD)?

In order to collect data Dr. Hafernik and his team created ZomBeeWatch to enlist citizens to collect information on phorid flies. Through this organization he is starting to collect data from around the county. Zombees have recently been discovered in the Eastern United States, reported in Burlington, Vermont.

Native hosts to the phorid fly have also been detected at lights; yellow jackets, bumblebees, and a new host, the potter wasp.

Through ZomBeeWatch, Dr. Hafernik is seeking the assistance of local beekeepers. He hopes to document phorid fly parasitism in the Bay Area. He also wants to determine the season of infestation and geographic trends. He also is interested in what effect phorid flies may have on colony health.

Anyone interested in assisting Dr. Hafernik with this research can join the project by going online to www.zombeewatch.org.

February 6, 2014

Dr. [Marla Spivak](#), Distinguished Knight University Professor at the University of Minnesota. Marla is currently researching the benefits of propolis to the immune system of honey bees.

March 6, 2014

Dr. [Eric Mussen](#), UC Extension Apiculturalist, beekeeper extraordinaire and longtime presenter in the annual speaker series. This will be his last presentation before he retires.

April 3, 2014

Dr. [Maryann Frazier](#), Sr. Extension Associate in the Entomology Department at Penn State University. Dr. Frazier's research includes determining the effect on honey bee colonies of pesticide residues in pollen collected by foraging bees.

May 1, 2014

Dr. [Gordon Frankie](#), Professor of Environmental Science, UC Berkeley. Dr. Frankie's research focuses on the behavioral ecology and community organization of solitary bee species in selected environments in California and Costa Rica.

June 5, 2014

Dr. [Deborah Delaney](#), Assistant Professor at the University of Delaware. Dr. Delaney's research includes the genetic characterization of unmanaged bee colonies, savethehives.com feral bee project, and evolutionary biology of honey bees.

Hive Tips

Many are reporting decreasing activity of yellow jackets, but they are still out and active. If you see them entering your hive(s), give the bees a hand in defending the colony by reducing entrance size.

Temperatures are starting to drop and your beekeeping season is winding down. Time to finish your winter prep (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.

Cold doesn't kill bees - moisture does. Make sure your hive tilts forward slightly so rain doesn't condense inside on your bottom board. If you see moisture inside on your top, you should consider giving them a little more ventilation by adding a shim, stick, or thin piece of wood between the top and inner cover.

Store your honey supers and built out combs in a manner that will not encourage wax moths, i.e. where light and airflow are abundant or in a freezer (or after freezing). If you stack outside, put spacers in between hive bodies to allow for airflow. Do not allow too much space or mice might move in and make a nest and destroy your combs.



Supers with built out comb stacked to discourage wax moths.



Combs improperly stored in plastic bin in a garage for about 6 months. Wax moth larvae have destroyed the combs.



Note the wax moth cocoons on top of the frame.

From the Librarian's Desk

Looking forward to seeing you at the Library table on Thursday! For those of you with materials on loan, please bring them back for others to enjoy and for a chance to win a prize.

We have a few new titles for your consideration:

Homegrown Honey Bees by Alethea Morrison
The Compleat Meadmaker by Ken Schramm
The Honey Revolution by Ron Fessenden and Mike McInnes
Bees – Nature's Little Wonders by Candace Savage
Keeping Bees with Ashley English

As always, we have a selection of beekeeping magazines for you to read and discount subscription forms for the American Bee Journal. All club members are eligible to borrow materials from the Club Library.

Very Interesting

Book Passage [Cafe](#) will host a Honey and Cheese Pairing with recipes from Taste of Honey on November 15th at 5:30 pm. Book Passage is located at 51 Tamal Vista Blvd., Corte Madera.

[Taste of Honey: The Definitive Guide to Tasting and Cooking with 40 Varietals](#) offers curious cooks a better understanding of all things honey — beginning with bees, and ending with sweet and savory recipes. Readers will better understand the life of a bee, and how its habitat influences both the color and the flavor of the honey it produces. A comprehensive glossary of 40 different honey varieties highlights the uniqueness of each, and lists the color, texture, taste, and uses to better equip home cooks when selecting honey at the grocery store or farmers' market. **Marie Simmons** — an award-winning cookbook author — showcases the distinctly different honeys with 60 simple recipes for breakfast, lunch, dinner, dessert, and everything in between. In addition to recipes, [Taste of Honey](#) offers readers easy and accessible ways to incorporate healthful honey into their everyday snacks — like dressing a salad with fresh lemon juice and honey for a quick oil-free dressing. Whether sweetening old favorites or exploring the flavorful world of honey pairing, this cookbook is the most comprehensive guide available for learning about different varietals, cooking, and snacking with Earth's natural sweetener.

Marie Simmons is a food writer, cooking school teacher, and award-winning cookbook author of over 20 cookbooks including *Fig Heaven*, *Rice: the Amazing Grain*, *Things Cooks Love*, *The Good Egg*, and *Fresh & Fast Vegetarian*. She lives in Eugene, Oregon.

Workshop Review

Two very successful workshops were conducted by our next speaker, John Kefuss, including discussions about the selection criteria that John uses in his queen rearing operation and the procedures used for determining hygienic behavior and varroa resistance of a hive with hands on practice in mite counting.

Thanks very much to Jerry and Mea for opening up the barn space at Draper Farms for us to conduct the workshops. Also thanks to Richard Hyde for organizing the workshop sign ups and to all the many others who made the workshops possible.



Searching for mites, one bee at a time



Still searching for mites



Discussing bees in the sunshine on a fall afternoon.
(What could be better?)