

THE MARIN BEEK NEWS

Volume 8, Issue 10

November 2016

What You Missed

Our September meeting featured a presentation 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. Her talk was titled "What's the Buzz About Native Bees?"

Bees contribute to the propagation of about 1/3rd of edible plants through pollination. Bee pollination helps produce larger fruits and a larger quantity of fruit. As a side note, Dr. Kremen pointed out that chocolate requires insect pollination.

Honey bees are valuable because they can be moved around to pollinate crops. Approximately one million colonies are brought to California each spring to pollinate almonds.

Native bees can also be important crop pollinators. About 10% of native bees participate in crop pollination.

There are over 20,000 species of bees worldwide. Roughly 3,500 species can be found in the United States and over 1,800 species are found in California. More native bees are found in arid areas.

Native bees come in a variety of sizes; from much smaller than honey bees, up to the large carpenter bees and bumble bees. They also exhibit diverse social habits, from solitary to true social.

Solitary

- Usually ground dwelling.
- Queen emerges in the spring and mates.
- Queen collects pollen, forming it into a ball and lays an egg on the pollen ball.
- Queen repeats pollen collecting and egg laying.
- The queen then leaves the young to feed on the pollen ball and then fend for themselves.

Gregarious (communal nesting)

- Bees may congregate at a common site, but do not share foraging or nursing duties.

What's the Buzz?

Our next meeting will be on Thursday November 2, 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 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".

Upcoming Meetings:

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.

See What's the Buzz on Page 2

1	What You Missed
1	What's the Buzz
3	Hive Tips
3	Beekeeping Classes
4	Bee Audacious

See What You Missed on Page 2

- They will often nest in hollows in wood or plants.
- Carpenter bees are considered gregarious.

Semi-Social

- Bumble bees are an example of semi-social bees
- The queen mates in the fall and then hibernates alone through the winter.
- The queen emerges from hibernation and creates a hive of workers in a ground nest, usually an old rodent nest.
- The first workers stay in the nest and the queen forages for pollen.
- The second set of workers will forage and then the queen remains in the nest.
- Bumble bee colonies can get up to 300 workers.

True Social

- Honey bees are an example of true social bees.
- The queen only leaves the nest for mating.
- The various duties in the hive are all performed by the workers, from nursing brood to foraging for food.
- The hive will contain thousands of worker bees.

Native bees carry pollen in various ways. Bumble bees, like honey bees, carry pollen on the bac legs; but do not have the pollen baskets that honey bees have. Other native bees carry the pollen attached to their body hair.

Native bees tend to be plant specific and have a shorter period of foraging activity, tied to the life cycle of the specific plant. Native bees can be important pollinators for certain crops. Studies conducted in Yolo County have found that native bees could provide 100% of the required pollination of watermelons, given the right circumstances. They double the fruit set in tomatoes and increase the quality of strawberries. It is estimated that 40% of the crops in California could be pollinated by native bees. Wild pollinators enhance fruit set regardless of the presence of honey bees.

Native bees increase the effectiveness of honey bees pollinating almonds. Almonds are not self-pollinating. They require the pollen of a different species of almond to set fruit. Almonds are grown with different species of almond tree in different rows. Honey bees tend to forage along rows of trees. Native bees cause the honey bees to transfer between rows more often. Native bees also tend to forage on the lower part of the tree causing the honey bees to move closer to the top.

What are the threats to native bees?

Pesticides

- Monoculture plantings tend to attract pests, increasing the use of pesticides. Monoculture planting also provides a resource only for a limited amount of time.

Diseases

- Native bees are not necessarily affected by the same diseases as honey bees but recently more diseases affecting honey bees have been found in the native bee population.

Habitat Loss

- More development eliminates nesting areas, particularly for ground dwelling bees.
- More development limits the floral resources available to native bees.

How can farmers attract native bees?

- Plant hedgerows at the field margins, selecting a variety of plants that flower at different times. While hedgerows have been found to attract many native bees, their effectiveness in pollinating field crops can be limited; perhaps because the hedgerows are not large enough.
- Diversify crops within a field. Studies found that native bee pollination of polyculture in an agricultural intensive environment was equal to monoculture near natural habitat.
- Farmers and native bees can benefit in many ways if the farmers manage for pollinators.

What's the Buzz continued from Page 1

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.

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

Hive Tips

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

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.

Temps are cooling down and the drones are all but gone. If you plan to check your hive, have a plan for why you are going in and what you are looking for. Plan to inspect when temps are 60 or above and keep your inspection as brief as possible. Inspecting at this time of year for curiosity sake could potentially do more harm than good (and if you injure your queen the colony has low likelihood of successfully replacing her), but a well planned and executed inspection could save a colony from starvation or mites.

You can find out a lot of information without opening the hive. Put your ear up to the side and knock gently. What kind of buzz do you hear? Does it sound like a large cluster or a few sporadic bees? Try to heft the hive. Is it heavy with stores? Or is it light and lifted with ease? If you have a screened bottom board, what do you see on the monitoring board? From debris, can you see if the the size of the cluster the same, smaller or larger than when you looked last? Do you see dark cappings from brood emerging? Or lighter cappings where stored food is being consumed



Knocking and Listening to the Cluster

Beekeeping Classes

Upcoming classes with
Bonnie Morse, Bonnie Bee & Company:

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 2017 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

Field Day: Sat., Mar. 11th, 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

See Beekeeping Classes on Page 4

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. 11th, 1:30pm – 4:30pm (drop in fee = \$40)

Bee Audacious Update

Thank you to everyone who has volunteered to help with notetaking at the conference. Those spots are now all filled. There are still a few ways to be part of Bee Audacious:

1) Come to the conference Public Report Back / Panel Discussion

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 moderated by Doug McConnell and hosted by Dominican University. December 14, 7:00pm. \$20 general admission, \$10 students and seniors.

[Tickets are available](#) through Eventbrite.

More info available at www.beeaudacious.com

Panel will be followed by book signings of Bee Audacious leader and participant authors. 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

2) Hang out with leader and participants at Heidrun Meadery on December 13th.

After the main invitational conference concludes, many participants will be moving down the street (literally – about 9 minutes away south on Hwy. 1) for tours, tastings, and other Marin munchies hosted by [Heidrun Meadery](#). You’re invited to join them!

Heidrun produces naturally sparkling varietal meads using the traditional French Méthode Champenoise. Their trademark Champagne-style of mead is light, dry, delicate and refreshing, with subtle exotic aromas and flavors found only in the essence of honey. If the weather cooperates, you’ll also be to wander the grounds and see their gardens, greenhouse and apiary.

In addition to tasting Heidrun meads, we’re organizing a variety of delectables produced in and around Marin including oysters from Tomales Bay (each ticket allows you to have two raw or bar-b-queued oysters you can purchase more if you just can’t stop eating them), cheese from Point Reyes Farmstead Creamery paired with honeys from around Marin, salmon (OK, we can’t guarantee that the salmon you’ll be eating was spawned in the creeks of Marin, but they do run here!), beer from Lagunitas Brewery and other yummys prepared by the Sonoma Shuckers. Price is \$35 per person.

[Register through Eventbrite](#)

3) 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. Or get your gear (including tie dye shirts) through [Zazzle](#).