THE MARIN BEEK NEWS

Volume 6, Issue 1 January 2014

What You Missed

Our last meeting featured a talk by Sue Cobey, bee breeder and honey bee research extension associate at Washington State University. Sue Cobey has worked for decades to improve honey bee health through queen breeding.

Sue started her talk with a brief overview of the work she has been involved with at Washington State. Together with Dr. Steve Sheppard and a team of colleagues, she has been collecting drone semen throughout Europe and deposits it in Washington State University's honey bee germplasm repository -- the first such sperm bank. Their rational for germplasm importation is to enhance the diversity of U.S. honey bee stock and to provide "raw material" for selection and breeding. Their work has produced the first significant introduction of honey bee germplasm into the United States since the passage of the 1922 honey bee act, which restricted the further importation of honey bees from sources outside of the country. They have been concentrating on three subspecies of honey bees that were originally brought over from Europe prior to 1922. The germplasm of the three subspecies is from Italians, obtained from Dr. Cecelia Costa's lab, Carniolans, from the Carnica Region located between Slovenia and Germany, and Caucasians, from the Republic of Georgia.

The team travels to these regions and collects drone semen, which is then cryopreserved for importation into the U.S. The cooling and heating cycle of the semen is a key step in collecting viable semen. Properly frozen drone semen can be stored for many years.

Partnering with the California queen breeders and the California tech team, Sue and the Washington State group are introducing these new genetics into the general honey bee population.

Sue continued with a talk about honey bee mating behavior and the benefits of being promiscuous. Honey bee queens have been known to mate with up to 60 different drones, with the average being 10 to 20

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What's the Buzz

Our next meeting will be on Thursday January 2, 2014 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA. starting at 7:30 pm. The meeting will feature a talk by Rob Keller, owner and founder of Napa Valley Bee Company.

Rob will speak about his experience keeping bees in the Napa Valley including the recent discovery of small hive beetle in the Napa Valley.

Upcoming Meetings:

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.

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drones. They have the highest mating frequency of social insects.

Each drone produces around 10 million sperm, which are all identical. Mating is fatal to drones, their sex organs are ripped out during the mating ritual. The queen will keep only a small portion of the sperm from each drone that she mates with, discarding up to 90% of the sperm. This process promotes diversity in the hive. Drones are found in distinct aerial sites called drone congregation areas or DCAs. DCAs are found from 10 to 60 meters above ground and are joined by interconnecting flyways. Each DCA may have from 10,000 to 25,000 drones that come from 200 to 300 different colonies. This produces a random genetic mix. After insemination the queen will be very active, running around on the comb. This behavior aides in the migration of the sperm into the spermatheca. Most hives will have a variety of different colored bees, indicating a well mated queen. Honey bees are highly sensitive to inbreeding and will destroy eggs that have the same sex allele from the queen and drone.

Sue pointed out that drones can be hard to raise. The worker bees tend to kick them out whenever the hive becomes stressed and often concentrate on new immature drones to the detriment of the more mature drones.

Multiple mating has been found to have many beneficial effects on the hive, such as:

- Increased brood viability.
- The bees find nest sites faster.
- Stable thermoregulation of the hive
- Increased task diversity, a more efficient workforce. Colony success depends on the efficient division of labor.
    - A diverse workforce communicates more efficiently.
    - They tend to build more comb.
    - There is a higher rate of forage activity.
    - They store more pollen and nectar.
    - The bees tend to have more microbes in their gut, reducing the pathogen load.
- Reduced prevalence and severity of diseases and pests.

Sue pointed out that honey bees have an unusually high rate of genetic recombination. This leads to mutations, which are the prerequisite to genetic evolution. Mutation can occur through various means.

- Natural selection pressure, which is the best method.
- Environmental changes.
- Pests and disease.
- Beekeeper management.

Sue closed by stating that queen bee breeding is about trying to identify and bring out the best traits of the bees on a consistent basis. It is a balancing act.

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March 6, 2014

Dr. Eric Mussen, UC Extension Apiculturist, 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.

From the Librarian's Desk

Looking forward to seeing you at the Library table on Thursday! 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.

Hive Tips

- Cold doesn't kill bees - moisture does. Make sure your hive tilts forward slightly so moisture doesn't condense inside on your bottom board. Not sure the bees have enough ventilation? On a warm day, quickly check the inside of your top to see if it is wet or has mold. If so, consider giving them a little more ventilation by adding a shim, stick, or thin piece of wood between the top and inner cover.

- Cold may not kill bees, but it can make smaller clusters work harder to keep warm and go through their food stores more quickly. There's no reason to let a colony starve. On a day that is 60 degrees or warmer, you can go in and check out their food stores. If you prefer not to go into the hive(s) at this time of year, you can also check the weight of the hive by trying to lift if from behind. If it is difficult to lift, the colony likely has ample stores. If it is easy to lift, you may want to feed.

- The eucalyptus bloom started early this year. If your bees are within range of flowering trees, you may see them bringing in a lot of pollen and nectar. If your colony is strong and has a large cluster, you may even want to consider putting on a super with frames of built out comb. Empty combs should not be considered because temperatures at this time of year are not adequate to promote wax production. In addition to availability of built out combs, this should only be considered if the colony is strong. Adding extra space to a weaker colony will just make it that much harder for them to keep the brood cluster at the right temperature. How can you tell? One indication will be if the foragers are leaving the hive early in the morning. If the foragers can leave during colder times of the day, then it may be an indication that they have enough workers to maintain the brood cluster temperature and still have workers to spare for foraging.

- With the temperature climbing above 60 degrees on many recent days, you can check your hive if needed. If you do so, have a plan for why you are going in and what you are looking for. Plan to inspect during the warmest part of the day and keep your inspection as brief as possible. Inspecting at this time of year for curiosity's sake could potentially do more harm than good, though a well-planned and executed inspection could save a colony from starvation or mites.

- It's time to start getting ready for next season! Clean up equipment from dead-outs and pulled honey supers from last season. Read a book. Sign up for a class. Order and assemble new equipment. 2014 will be upon us quickly!

Dues are Due

A reminder that annual dues for 2014 are now due. Dues are still just $20 per year. You can pay in person to David Peterson at the monthly meeting, or pay online at the club website http://marinbeekeepers.org, click on the "Become a Member" tab and follow the instructions to renew, or mail you check made payable to Marin Beekeepers to:

Marin Beekeepers
c/o Mary Nordquist
2072 Hatch Road
Novato, CA 94947

Members with new contact info please make sure to include your address, phone number and e-mail.

Membership includes free admission to all meetings, access to the Club's honey extracting equipment, and subscription to the Club's "MarinBuzz" listserv, which serves as an online discussion forum and a way to notify Club members of local bee swarm information.

Spring Beekeeping Classes

Bonnie Bee & Company winter beginning and intermediate class series (4 sessions each)

Beginning Beekeeping class 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.
Classroom sessions: Wed., Jan. 22nd – Wed. Feb 5th (3 classes), 6:30 – 8:30pm,
San Rafael Community Center, 618 B St., San Rafael
Field Day: Sat., Mar. 15th, 9:30am – 12:30pm (location

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TBD, tentatively San Geronimo)
(Rain Day for Field Day: Sat. Mar 22, 9:30am – 12:30pm)
(Drop in for classroom sessions only = $25/each)
Additional information and registration in the 'Youth and Adult' classes through San Rafael Community Center

Intermediate Beekeeping class series (9 hours, $99)
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 pests 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: Tues., Feb 11th – Tues. Feb 25th (3 sessions), 6:30 – 8:30pm,
San Rafael Community Center, 618 B St., San Rafael
Field Day: Sat., Mar. 15th, 1:30pm – 3:30pm (location TBD, tentatively San Geronimo)
Rain Day for Field Day: Sat. Mar 22, 1:00pm – 3:00pm
(Drop in for classroom sessions only = $25/each)
Additional information and registration in the 'Youth and Adult' classes through San Rafael Community Center

CITY BEES MASTER CLASSES WORKSHOPS 2014
- Six meetings.

6:30-9:00PM. $20 fee per class or $15 each for the series. $15 current local bee organization members, $10 limited income.

These Master Class Workshops:
- Provide the foundation to move your beekeeping practices comprehensively to the next level;
- Convey critical awareness about the obvious clues and timing for each seasonal next step;
- Share insight into the rhythmic patterns unique to San Francisco and the Bay Area.
- Will be especially meaningful to those who have had hives for several years but need to know what's next, and will provide a full spectrum of valuable insight for new and recent beekeepers. These synergistic classes weave together core knowledge of hive management with a bird's eye view of the entire year, and how timing is critical at each phase for overall hive success and prosperity.

January - (date/location to be announced)
OUT FROM BEHIND THE SUN
- Bay Area weather differences, strong overwintering, winter mite reduction techniques, essential protein supplement FYI, early brood buildup, equipment finesse - what matters and what's fluff, primary steps for annual bee success.

February - (date/location to be announced)
BUILDING THE RIGHT EQUIPMENT - LIKE YOU MEAN IT
- Hive equipment options, what matters in hiveware, jigs for production speed building, glue for forever, handy specialized optional configurations, and ancient wisdom for the NOW.

March - (date/location to be announced)
DELIVERING SPRING'S PROSPERITY BOOM
- Spring Expansion: colony start-up choices, making splits, drawing comb - choices and production methods, simple queen rearing, swarm controls, hive stack management, IPM-drone trapping, timing and overall strategies for reduced hive losses.

April - (date/location to be announced)
HANDLING THE POWERFUL REINS OF 'SPRING INTO SUMMER'
- Hive stack & comb manipulation, balancing hives, corrective action, honey flow & harvesting, wax management, honey options - storage and bottling choices.

May - (date/location to be announced)
LATE SUMMER - ANTICIPATE DEARTH, RUN AROUND DEATH, AND WHISTLE PAST TROUBLE
- Mite monitoring schema, Integrated Pest Management (IPM) techniques, organic mite control methods. Viruses, bacterial disease impact, and parasite vectored diseases - FoulBrood & Nosema Ceranae, tests for Hygienic Bee Behavior, Mite resistance, Phorid Fly Parasitism. Dearth Impact, Record Keeping.

August - (date/location to be announced)
MAINTAINING HIVE HEALTH THROUGH THE ANNUAL CYCLE, PLUS FOUNDATIONAL WORK FOR NEXT SPRING'S SUCCESS
- Fall nectar flow patterns, seasonal population decline, protein feed health essentials, preparation for winter & hive shutdown, working hives through winter.

For further information - 415-722-7640, robert@citybees.com, or http://citybees.com/classes.htm

Any member offering classes related to beekeeping who would like the information included in the Beek News please send the information directly to Rob Tysinger at rob@tysingerengineers.us.

Club Bee Order

Installing queen cells into the nucs at Bonnie Bee & Co.

Once again the Nuc decided to support the efforts of our club members Bonnie and Gary Morse, owners of Bonnie Bee & Company, to provide nucs with queens mated from local Marin stock.

Five deep* frame nuc (nucleus) colonies are $170 each and will be available late April - mid-May (weather dependent).
*Some medium frame nucs will be available. Request when ordering.

Order your bees directly from Bonnie Bee & Company by contacting Gary Morse at gpmorse@comcast.net, telephone: 415-699-5856.

For more information visit www.bonniebeecompany.com

Beekeeping Fijian Style