THE MARIN BEEK NEWS

Volume 7, Issue 1 January 2015

What You Missed

Our last meeting featured a presentation by Dr. Robbin Thorp, PhD, Professor Emeritus of Entomology, Harry H. Laidlaw Jr. Honey Bee Research Facility, University of California, Davis. Dr. Thorp has special interest in bumble bees and solitary ground nesting bees that are host-specific in their pollen choices.

Dr. Thorp started his talk by showing a slide of an insect that was "not a bee". Although it looked like a bee, it was really a fly. Wasps are also "not bees" but wasps and bees share a common ancestry. Bees, he explained, are wasps that have gone vegan. Wasps consume animal protein. Bees obtain protein from pollen. Bees have branched hairs that create a negative charge on the bee, which attracts pollen. Most bees have a pollen transport area, usually on their hind legs.

Bees have tongues, which come in various shapes. There are short-tongued bees, such as mining bees and sweat bees; and there are long-tongued bees, such as digger bees, carpenter bees, honey bees, and bumble bees. However, tongue length classification is very general.

In summary:

- Bees developed from wasps but use pollen for their protein source.
- They use nectar for flying fuel.
- They have branched hairs and other pollen collecting adaptations.
- They provide an important ecological service to flowering plants, both crops and wild plants.

There are over 19,500 known species of bees. It is estimated that there are between 20,000 and 30,000 actual bee species. Bees are more diverse than mammals, birds, reptiles and amphibians combined. In North America there are over 4,000 known species of bees, 1,600 of which have been found in California.

Mining bees (Andrenidae):

- Generally, smaller than honey bees.

See What You Missed on Page 2

What's the Buzz?

Our next meeting will be on Thursday January 8, 2015 at the American Legion Log Cabin, 20 Veterans Place, San Anselmo, CA starting at 7:30 pm. The meeting will feature Tom Seeley, PhD, Professor and Chairman in the Department of Neurobiology and Behavior at Cornell University, Ithaca, NY.

Dr. Seeley's talk will explore how a colony of honey bees operates as a factory that produces honey efficiently despite tremendous day-to-day swings in the supply of nectar, the raw material for making honey.

For his talk, Dr. Seeley will draw heavily on material from his book The Wisdom of the Hive (1995, Harvard University Press), and will show videos of bees producing all the signals mentioned above: waggle dance, shaking signal, tremble dance, and stop signal.

Upcoming Meetings:

February 5, 2015

Jay Evans, researcher at the USDA lab in Beltsville, Maryland. His work has spanned a wide range of topics including genome characterization of varroa mites and managing diseases and pests of honey bees.

See What's the Buzz on Page 3

What you missed continued from Page 1

- Solitary, ground nesting (hence the common name "mining bees").
- Emerge in early spring.
- Specialize in certain flowers.

Sweat bees (Halictidae):

- Generally, smaller than honey bees.
- Most are nondescript in appearance but a few are very distinctive, such as the "Ultra Green Sweat Bee" that has a shiny metallic appearance.
- They have a tendency to lite on sweaty skin to collect salts and minerals from the perspiration (hence the name "sweat bees").

Polyester and Masked bees (Colletidae):

- These bees dig a tunnel for their nest and line it with a cellophane-like secretion.

Leafcutting, Mason, and Cotton bees (Megachilidae):

- A large family of bees.
- They nest primarily in preformed tubular cavities (tunnels of wood-boring beetles or hollow plant stems.
- They can be used commercially for crop pollination.

Digger, Honey, Bumble, Carpenter, and Cuckoo bees (Apidae):

- Large and diverse group.
- Digger bees
  - nest in the soil
- Carpenter bees
  - nest in soft wood or pithy stems
- Bumble and Honey bees
  - Nest in large cavities or hives
  - Are social insects
  - Have distinctive pollen baskets
- Cuckoo bees
  - Have given up pollen collecting or providing for their young.
  - Lay their eggs in another bee's nest in a behavior akin to cuckoo birds.
  - They are kleptoparasites, the larvae will feed off of the host bee's larva and any pollen and nectar stores that the host bee has provide for its larvae.

Bee Lifestyles:

- A vast majority of bees are solitary (75%).
  - Each female creates a nest, collects food, and lays eggs.
  - Nests are generally in soil or tubular cavities. Often using the abandoned burrows of beetles.
  - They only produce a small amount of offspring.

- A small number of bees are social insects (10%).
  - Honey bees.
  - Bumble bees.
    - Social but not perennial.
    - Life cycle is similar to yellow jackets.

What is being done to enhance pollinator populations?

- Hedgerow and agricultural landscape restoration.
- Green roofs.
- Power line easements.
- Roadside planting.
- Landfills, golf courses, and green belts.
- Urban gardens.

What can we do in our urban gardens to promote pollinator populations?

- Bees need food from flowers, both pollen and nectar.
  - Provide a diversity of flowers with minimum patches of 9 square feet of each variety to attract bees to forage.
  - Provide flowers for all seasons to provide a continuous food source.
- Bees need nesting habitat.
  - Leave some bare ground for ground dwelling bees.
  - Consider providing "bee condos" for Mason bees.

Dr. Thorp stated that "If you plant it, they will come. If you provide habitat they will stay and reproduce".

Dr. Thorp closed with a list of websites that you can visit to learn more about gardening for pollinators:

http://hhbhgarden.ucdavis.edu/welcome
http://www.helpabee.org/
http://www.xerces.org/

Marin Bee Census

The results of the census are here! To view go to: http://bonniebeecompany.com/wp/projects/2009-present-marin-county-bee-census-survey/

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.

- Weather forecast shows some expected 60 degrees+ days on the horizon, so 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. The 2015 season will be upon us quickly!

What's the Buzz continued from Page 1

March 5, 2015

Christina Grozinger, PhD, Professor of Entomology and Director, Center for Pollinator Research, Penn State University.

April 2, 2015

Elina Nino, PhD, Extension Apiculturist, University of California, Davis.

May 7, 2015

Marla Spivak, PhD, Distinguished Knight University Professor at the University of Minnesota.

June 4, 2015

Mark Winston, PhD, Academic Director and Fellow of the Centre for Dialogue, Simon Fraser University, Vancouver, BC.

July

No meeting (Marin County Fair)

Beekeeping Classes

Bonnie Bee & Co. Fall and Winter Classes

Class room sessions at the San Rafael Community Center, 618 B St., San Rafael, 6:30pm - 8:30pm
Additional information and registration in the 'Youth and Adult' classes through San Rafael Community Center

Beginning Beekeeping class series (9 hours, $99, course code 22399)

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: Wed., Jan. 21st – Wed., Feb 4th (3 sessions)

Field Day: Sat., Mar. 14th, 9:30am – 12:30pm

Intermediate Beekeeping class series (9 hours, $99, course code 22402)
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: Wed., Feb 11th – Wed., Feb 25th (3 sessions)

Field Day: Sat., Mar. 14th, 1:30pm – 3:30pm

From the Librarian's Desk

Many thanks to The Great Acorn Company for their donation of Robbin Thorp's book California Bees & Blooms to the Club Library. It's a terrific addition to our collection! If you have an item borrowed from the library, don't forget to bring it back this month and participate in our monthly drawing. The club library is open to all members. Please stop by & see if there is something of interest for you!

Broodless Study Update

While only one colony has been observed as broodless (and that colony didn't just allow bees to emerge, it removed brood), here are the average 24 hour mite drops from the last few months. Data was collected from 18 colonies.

Date	Avg. mite count
8/11	5.7
9/2	9.8
9/16	18.9
9/30	20.5
10/14	18.8
10/28	21.8
11/11	21.3
11/25	30.1
12/15	14.6
12/29	9.7

Dues are Due

Annual dues for 2015 are now due. Dues remain at $20.00 for the calendar year 2015. New members who joined in October or later are considered paid through 2015. The payment is due by the January meeting, but not delinquent until the February meeting.

The best way to renew is do it on the Website: **www.marinbeekeepers.org** and pay using PayPal or a Credit Card. You do not need to "Sign In". Just click on **"Become a Member"**, scroll down to: **"To join, complete the following form:"** Then check the circle by **"Renewing Member"** and fill out the form with your current information. There is a small service charge to PayPal for the processing of the payment.

Or you can mail your renewal check for $20.00 payable to Marin Beekeepers to our Treasurer:

Mary Nordquist
2072 Hatch Road
Novato, CA 94947

You can also renew at the meetings as you come in the door, by cash, check or Credit Card.