

Marin Beek News

Volume 2 Issue 9

October-November 2010

Marin County Beekeepers Meeting *The Electron Microscope Bee Photos of Rose-Lynn Fisher*
Thursday, November 4,
7:30pm American Legion Log Cabin
20 Veterans Place
San Anselmo



These photos comprise an astonishing bee biology lesson by an art photographer who has fallen in love with *Apis mellifera*. Wonder follows wonder – the compound eye, the sensilla on the antennae, the hooks on wings, the branched hairs in an otherworldly landscape. Magnifications of 10x to 3000x orient the viewer, as the camera moves in. The photographer will take us on a microscopic tour of the bee. *The meeting will begin promptly with a 20 minute question and answer period.*

Late Fall in the Bees

Our hives need to be, at this time of year, tucked away until spring. Rain kept the bees in for a few days. On the first day that the earliest foragers return to the diminishing bloom – some rosemary and borage -- there will be a ritual that we probably won't witness. When they return to the colony, they will not dance to direct others to the food source; instead, they will make a shaking signal to stir up their inactive sisters. They'll do this on several successive trips before they begin waggle dancing to signal the site.

On days with enough sun to open our hives, we need to check the stores in the colonies. A lot of reference material is for colder climates, and even here in Marin we have a wide variety of microclimates and forage, but at this point in the year it's good to see that the colony is full of honey and pollen. Consider that a deep frame holds about five pounds of honey and a medium about three pounds: A minimum total would be around 30 pounds. Colonies without enough stores can be combined. An option is to feed 2:1 sugar syrup.

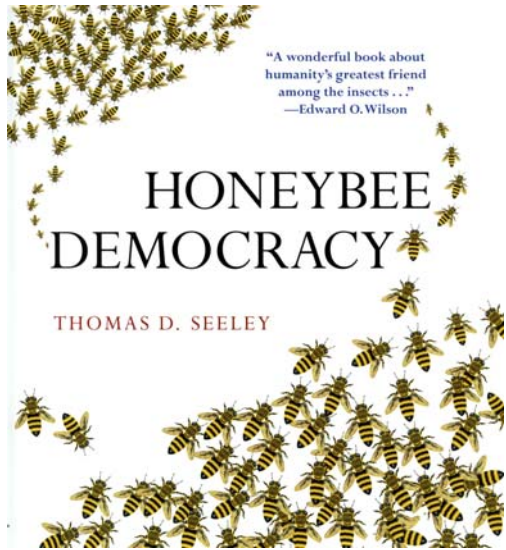
The frames full of brood and honey at this point are snug riches for the winter. There should be a diminished amount of larvae compared to capped, pupating brood – an indication that the queen has slowed her laying. But the same honeybound picture in the spring would be a claustrophobic catalyst for swarming.

There are still a few days when weak hives can be combined. Entrance reducers can go on to protect the hives from robbing. Frames vacated by the bees can be pulled and stored or cut for melting, keeping in mind that a third need to be replaced every year. The pulled frames can be replaced for winter by

follower boards, which diminish the space to be heated.

The energy expenditure of a flying bee is about 25 times that of an Olympic rower compared to body weight. But a hive is heated by the bees with the equivalent of a low wattage light bulb. Restricting the space conserves heat and therefore energy.

M.E.A. McNeil Draper



This extraordinary new book, *Honeybee Democracy* by Tom Seeley, a professor and bee researcher at Cornell, tells the story of how a common intelligence works in a colony as it appraises and selects an optimal nesting site. It left this reader in awe of their sophistication – and Seeley’s skill at designing ingenious experiments to learn their secrets. *MMD*



Ask Eric

Eric Mussen, Extension Apiculturist at U.C.Davis reports early signs of things getting better for the bees. He says there are reports of a little more honey and no reports of the early colony losses of the last several years.

He suggests that we can end both robbing and yellow jackets nipping off bees at the colony entrance with robber screens, and sends us these directions:

Preventing Robbing

We are rapidly approaching a time of the year when robbing becomes problematic for beekeepers. When the weather allows for forager flight, but plants are not providing nectar and pollens, honey bees are apt to drop by next door and see what they can steal from the neighbors. The length of time that bees rob depends on the climate. Here, in the Davis area, we have nectar and pollen dearths in late spring and a big one in late summer and fall. We can have flight conditions throughout the winter, but the worse problem spans the time from mid-September to November.

Robbing is a problem for honey bee researchers, small scale beekeepers and beekeepers with thousands of colonies. At UC Davis, we still have the portable, four-sided, eight foot tall, folding screen cage that Dr. Laidlaw would wrap around him and a hive so that he could work in the hive, unmolested, during the fall. Otherwise, he no sooner would have the cover off the hive and hordes of robbers would descend on the combs.

Some beekeepers are convinced that if you remove all the covers (lids) from the hives at once in an apiary, robbing isn’t a problem. I’m going to try that in Davis, sometime, to see if it works as well as the Canadian proponents claim that it does. I’ll never hear the end of it from Susan Cobey and Elizabeth Frost if it doesn’t work!

I believe that the better choice, feasible at least for those with fewer hives, is the use

of robber screens. These screens interfere with robbing bees yet provide wide expanses of the entrance to be used for hive ventilation. Serious ventilation is critical on our hot fall days.

The original robber screen that I saw being used at UCD was a wooden-framed section of screen that covered about half of the entrance. A slot cut in one end held a piece of lath that could be slid down the entrance to reduce the entrance to zero, if necessary. Normally, it was left with about a 1.5 to 2 inch hole for the bees to defend. Still, if the colony behind the screen was weak for some reason, it really got targeted. A pile of freshly killed bees would be lying on the ground every day for weeks.

Then, we learned a bit more about robbing behavior and a new screen design became possible. Robbing honey bees tend to hover in front of a neighboring hive, swinging to the left and the right, as if trying to find an unguarded opening through which to enter quickly and undetected. Robbing foragers fly with their hind legs dangling down, similar to the way paper wasps dangle their legs. It does not appear that robbing honey bees enter the hive by landing on it and walking in.

Therefore, if you place a full-length screen across the front of the hive, you can block out the robbers. But, what about the hive inhabitants? Would they be screened in? Yes, if you fit the screen tightly, everywhere, top and bottom, to the hive body. Instead place a four-inch-high robber screen across the body of the hive, leaving a gap of about two inches from the screen to the hive, so the resident bees can crawl or fly over it. If you install the screen in the morning, the resident bees learn within hours to crawl up over the screen to get out and get back in. Eventually, a number of them learn to fly diagonally across the hive entrance and not touch the screen. And, the bees have no difficulty carrying bodies of dead bees and other debris over the screen.



Intuitive behaviors are interesting. Potential robber bees leave from their original colony by going over the robber screen, but don't do the same when they try to enter a neighboring hive. They hover around the fronts of screened hives and never get in; then, they go back home over the top of their own screen. We aren't sure, but it appears that these robber screens also deter marauding yellowjackets, that can kill and eat a surprising number of honey bees around the hive entrance. Yellowjackets appear not to access this type of robber screen, either. I am still waiting for reports on the value of this screen from some beekeepers experiencing severe problems with yellowjacket predation.

It may be a bit difficult to visualize the screen I have described, so I am including a few photos that should clear things up. The screens can be nailed to the fronts of the hives or held on with hook and eye latches. If nailed on, use nails with two heads on them (8d 2 1/4 inch bright duplex), so that the screen can be nailed solidly into the hive front but the nails can easily be grabbed when you wish to take them out.



You can tell from the photos that this screen was made by hand with simple tools

(hacksaw, wood glue, beehive frame nails, drill, hammer, Arrow stapler and ¼ inch staples, white spray enamel paint). The bees do not have problems negotiating my crooked apparatus, as long as it is bee-tight in the right places and lets them get out behind it.



Eric Mussen

Pay either Dave Peterson at the meeting or mail your dues to:

*Mary Nordquist
2072 Hatch Road,
Novato, CA, 94947*

Please include your address, phone and e-mail.

Join the Team

We need a volunteer:

librarian, to arrive a little early before meetings

to set out the material and record borrowers

snack coordinator, to organize meeting snacks

newsletter editor, to put out the Beek News

Thanks to our retiring librarian Sandy Duveen for making our literature available. And thanks to the members of the ongoing Nuc that enhance our group.

The Beek News has a guest editor for the once. Rob Tysinger, who has created and carried on the News until now, is helping care for his son Andrew, who is recovering from a serious climbing accident in Colorado. You can follow Andrew's progress and post messages for the family at:

www.caringbridge.org/visit/andrewtysinger

If you have a contribution to The Beek News – a photo, an anecdote, a piece of bee science, please send it to: mea@onthefarm.com

Mea

2011 Dues Are Due

What a deal: \$20 for a year of bee info in stimulating programs, online conversation, access to swarm notices and use of the extractor and other equipment.