

The Voice of Professional and Backyard Beekeeping

Cowlitz Beekeepers Association Newsletter

Dedicated to Preserving the Honey Bee through Community Action, Awareness and Education

May 2021

Issue 5

Next Meeting:

Where: Anywhere worldwide on your computer via Zoom

When: May 20, 2021 7:00 PM

Speaker: Dw Schoenthal

Topic: Beekeeping hacks, and swarming

If you live in Cowlitz county or the surrounding area and find honey bees fascinating, then you should consider joining us. Reach us on Facebook by searching for Cowlitz Beekeepers Association or check out our website at:
<https://cowlitzbeekeeping.wixsite.com/website>

Daniel Schoenthal runs Blue Green Horizons, a Honeybee Rescue in Northern California. They specialize in complicated bee removals such as cut outs and trap outs, along with feral swarm collection. Daniel is also active on Facebook answering beekeepers' questions openly, giving tips and helpful advice. He can be found on facebook group "Beekeeping Hacks" where he's an admin, and I see him on beekeeping techniques quite often.



Association Officers and Board:

Bill Holmes, President (360) 430-4077 or
cowlitzbeekeepers@gmail.com
John Holmes, V. President (360) 673-8787
Zenobia Scott, Secretary (360) 425-2314
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Barbara Skreen, Treasurer
Dixie Tollefson, Trustee (360) 431-1018
Dave Scott, Trustee (360) 425-2314
Kathy Scott, Trustee (360) 601-0393
Ken Curtis, Trustee (360) 261-2795

Handmade Proud:

Looking to buy new woodenware at reasonable prices?

- Bottom Boards - Top Covers - Inner Covers - Hive Boxes and more...

Contact **Gerry Herren**

Ph. (360) 355-0051
Swarmchaser40@gmail.com

CBA Honey Bee Inspection Field Day is set for Saturday May 22, 2021 at noon. We hold this event at Dave Scotts apiary on the West side highway. There's enough room for us to break into smaller groups and get a good look at what the bees are doing. Please sign up for this event by going to <https://cowlitzbeekeeping.wixsite.com/website/copy-of-membership> This is a members only free event. You can also sign up by texting either Bill or Zenobia. A textable phone number is important in case of last-minute weather cancelations. Location information will be shared with those who sign up.



Nuc-a-thon

On April 17th 51 Beekeepers received 97 nucs through the club's purchase program. Thanks to Foothills Honey Company of Colton Oregon for making this a great program. We nearly doubled the amount of nucs purchased over last year. We had more helpers this year and set up with 2 car lines. It went fast and efficiently, and we were done in 1 ½ hours. Thanks to

Dave and Zenobia Scott, Kathy Scott, Garnet West, Paul Vincent (CCOBA), Ken Curtis, Barbara Skreen, and John Holmes who made it successful.

Our Zoom Meetings

Zoom video conferencing is celebrated for its ease of use, high quality video and audio, and collaboration facilities such as text chat and screen sharing. All you need is a computer or smartphone with speakers, a microphone, and a camera.

Attendees can join a Zoom meeting without signing into the app. Join us at our next meeting. Click the link I will send out a few days before the next meeting. If you are not a member but would like to attend a meeting, request the code to cowlitzbeekeepers@gmail.com

Water Needs of Bees

by Dewey M. Caron

We typically think of honey bee foraging as gathering pollen and nectar from flowers. However, they also forage for propolis and water. As the bee nutrition studies at OSU by Ramesh Sagili and postdoc Priya Charkrabarti demonstrate, the nutritional requirements of honey bees are quite complex. It turns out that maybe nectar and pollen does not supply everything bees need - water might also be important.

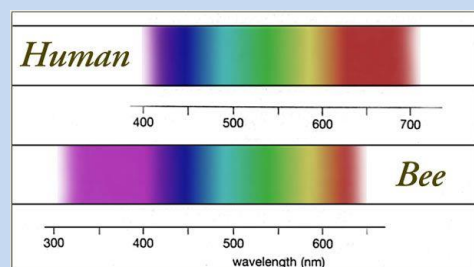
PhD studies by Dr. Rachael Bonoan, at Tufts University demonstrated that honey bees use water sources to complement, and sometimes supplement, the minerals in their diet. Two of her findings specifically relate to fall dietary needs. As magnesium levels drop in pollen during the summer and fall, she was able to demonstrate that the bees seek mineral rich water sources. Another of the findings has shown that while calcium levels increase in fall pollen sources, so too do the bee's preference for calcium in water. We know calcium, along with potassium, are useful for the muscle activity needed to generate heat in their cluster during winter.

She suggests we supply our bees with "dirty water", not clean, pure water but "natural" water sources with vegetation in it. Water seeps (a wet or mossy area where ground water reaches the surface) are frequently used by bees. Garden water features with plants and rocks so bees can access the water are better than clean tap water in a frequently cleaned/refreshed container. Offer the bees muddy water - in a cow pasture the water that gathers where the hoofprints break the soil become bee watering spots (but you might not be close to pastured cows). Closer to home, the neighbors swimming pool can become the bees favorite water gathering site.

Now, in the beginning of the year, is the time to start offering bees water in part to keep them out of our neighbor's yard. Don't wait until summer.

The Buzz on Honey Bee Vision

by John Holmes



How the honey bee sees the world is very different from how the beekeeper sees it. We have roughly 180 degrees field of vision; the honey bee has 280 degrees. We can only detect movement happening for longer than 1/50 of a second, the honey bee 1/300 of a second. Unlike us the honey bees can see polarized light, light waves in which the vibrations occur in a single plane. It is a form of light that is generated when light passes through the atmosphere or is reflexed off

certain surfaces. Basically, it's a bee roadmap, used for navigation by checking the pattern of polarized light in the sky.

The colors that honey bees perceive are drastically different from what we see. Perceived color is based upon how a pigment absorbs and reflects light. When light hits an object, some is absorbed and some is reflected. The eyes perceive the reflected portion as color. The honeybee eye contains three types of photoreceptors which peak in the ultra violet (UV), blue, and green parts of the spectrum. Adrian Horridge work indicates that honey bees detect only blue and UV as color. Edges are detected by the green receptors. Green as a color is not detected, only the rapid change in emission at each green or yellow edge, especially edges of black (shadows). Bees have no receptors for red so the color red is detected as black or the absence of blue. White is detected as intense blue. With tints of blue (mixture of blue and white) we see paler blue when more white is present. With honey bees it is the opposite, the more white that is present the more brilliant the blue.

Being able to detect UV light helps explain why bees are attracted to or can "see" colors they are not suppose to be able to detect like yellows and reds. An example of the color that is known as "Bee Purple" is shown in the photo with comments by Jolyon Troscianko, "Lesser Celandine in human-vision (left) and honeybee vision (right). There's a striking colour difference in UV. The whole flower looks yellow to us, however the petals reflect UV strongly and absorb blue (so look purple in this image), while the pollen in the centre doesn't reflect UV, so looks red."



By understanding how our bees see the world, we as beekeepers may be able to assist them in identifying their hives better. This can result in reduced drifting between hives and increasing survival of queens returning from their mating flights. The virgin queen flying off to mate has only one opportunity to examine and memorize the entrance to her hive. In a crowded apiary or mating yard, her survival is dependent on returning to the right hive. It has been recently discovered that bees detect, measure, and rapidly learns edges with the green receptors of their eyes. With their blue receptors they detect and measure shades of blue and the relative position of blue to edges. For hive entrance identification, avoid using blue on white background. Patterns of white or yellow bars on a black background, and the bars orientation, are optimum for detection by green receptors.

Adrian Horridge: Why Newly Mated Queens Get Lost, 2017. American Bee Journal, Vol. 157, No.9

Free download: <https://press.anu.edu.au/publications/what-does-honeybee-see-and-how-do-we-know>

Jolyon Troscianko: more wonderful photos <http://www.jolyon.co.uk/2015/04/spring-flowers-in-uv/>

Peter Borst <https://www.beeculture.com/what-do-bees-see/>

Out in the Bee Yard

Bill Holmes

I am thankful for my rural living. I don't have to be concerned about my bees swarming and bivouacking in my neighbor's back yard. However, I do want them to stay in the hive and produce a good honey crop. Keeping bees from swarming is a lot of work. And if you've given your bees their best chance at creating a strong vibrant hive, then they are more likely to swarm. All my hives are very strong this year. I only reversed one hive since the queen was fully engaged in both hive bodies in all but 1 colony. All my hives swarmed last year so I have young queens. My 9 hives are all I want. I also don't want to sell bees. So, I'm not going to make splits. Some sources say that increasing ventilation by opening the screened bottom board a little helps, so I do that. My strategy has been to try to get them to June without swarming, but this year that may be a big problem. My first swarm was April 27. I put it on the swarm list and Nate came out and gave it a new home. I had hung a Russian Scion on a tree on the east side of the apiary but they unfortunately went west into the blackberries. I went through the swarm hive and made a small nuc with several queen cells, then removed all but 2 cells in the donor. My plan is to check each hive for swarm cells weekly. If I find queen cells and they haven't swarmed, I'll make a nuc with the cells and destroy the rest, then replace the frames with drawn comb. If they've swarmed then I'll eliminate all but 2 cells. You absolutely want to avoid after swarms which can really deplete a colony population. Checking these boxes is also hard work. I put the 2nd super on most of them and the first were running close to 30 pounds. That's a lot of unstacking and restacking as my back frequently lets me know. As for the nucs, I'm going to be ok with a having a few around for any fall problems or even next spring if they can overwinter.



Tanging

Is tanging a bit of beekeeping mythology or does it work? The theory is that a beekeeper banging on pots and pans or other suitably noisy instruments can persuade a swarm to settle quickly and be re-hived instead of watching it fly off into yonder wilderness. Tanging has been around hundreds of years if not thousands to a time when beekeepers routinely promoted swarming to offset killing half their colonies every year at harvest time. One dismissive tanging account I read said that if a swarm landed on somebodys property then it was theirs unless a beekeeper was chasing it while banging metal together thereby signaling it was theirs. Folks begin to think the banging was for the swarm's benefit and not the beekeeper's finders' keepers. I don't accept that idea since tanging appears to be around for a lot longer than property rights, and why should chasing and banging convey ownership? Therefore, I do believe in the idea of tanging to bring a swarm down. There are theories why honey bees would halt their escape and put their plans on hold. For instance, a specific frequency in the banging disturbs them, or that it mimics the sound of thunder and encourages them to take cover. What ever the reason, there are a many who swear it works and keep a suitable pot, pan, trash can lid, and something to hit them with sitting in a handy place in the apiary.



There are three times you could try it. First, as the bees are emerging from the hive and taking to air. Second, when they are bivouacked on a branch. And thirdly when they take flight for a distant cavity. Evidence for the first case is many, and I think that since the bees are planning on settling down anyway, I could see quite a few eureka moments. If you live in an urban setting and getting your bees to stop after 25 feet rather than 150 feet could be quite advantageous. I say bang away. Case 2 when a swarm is 30 feet up a tree and. tangers try

to coax them down to the ground where a box is all set up. That would be genuinely nice indeed. Many claim to have done just that with tanging so you have nothing to lose but your neighbors respect. Now the final case is where scouts have located a new home and are rousing the resting swarm to flight. This might take all the tang banging you can muster to get them to stop and re-rest or come down to you. This case is also the only one that I have seen actual published research. Michael L Smith in the December 2013 issue of IBRA's Journal of Apicultural Research trashed the notion in a small study of swarms. He says tanging has no effect. But he only tried it on 4 swarms and those were all cases of leaving the bivouac. He did chase them across roads, community gardens, and farmland while banging a metal spoon on a frying pan until he could no longer see them. He was 0 for 4. That's not a large sample but I would have expected better results if tanging does work for outward bound bees.

I've got an old cow bell somewhere. I'll have to find it and hang it from a nail in the bee yard. Could be fun, it's why I have bees.

Queen's Throne

I made a queen's throne this past winter from plans I got off our May guest speaker Dw Schoenthal's facebook site blue green horizons. The swarm at right was on a redwood branch about 20 feet up. This is the only tool I had to reach them. So with my 24' pole I set up at about 5 pm. It was a very large swarm spread across 4 feet of limb with 2 pendulus orbs. After about 45 minutes I lowered it and there was a solid mass of bees inside on the frames and they were fanning heavily. But there were still tons of bees on the branch. So I put the lid on the thing, removed a small screened vent so bees could use it as an entrance and sent it back up. Progress was slow as bees would march in and march out. It was going to take hours if it works. I decided to leave it up all night and check in the morning. Maybe I can Tang them in. Ugh, next morning all the bees are outside the throne. I don't think the lid was a good idea. They were back on the limb except for a group that had attached to the side of the throne. So I very slowly lowered them and removed the throne and let the bees fall into a regular 5 gallon bucket, and then poured them into the throne. They seemed to like the change of scenery and even those bees who spilled onto the grass began marching to the side entrance hole. Progress? I ran the bucket up the pole a few times to dislodge some of the swarm and then poured them into the throne. They also stayed. Final step for the day was to extend the pole and throne back up to the main body of branch bees sans lid. It is 3:00 drizzling out and 55 degrees. When I return tomorrow: Will they throne or will they roam? Since it is press time for this newsletter I am sorry to say you will be left with a cliff hangar until next time. Bill



The **Western Apicultural Society** is providing, free, monthly, **Zoom Webinars**. The May webinar hasn't been listed on their website as of now, but they are held towards the end of the month. Register at

<https://www.westernapiculturalsociety.org/events-1>

The **Honey Bee Health Coalition** brings together beekeepers, researchers, government agencies, agribusinesses, and others to improve the health of honey bees. Check out things like hive management, tools & resources, and varroa management. They have an excellent **Varroa Management Decision Tool** that is very helpful and lets you know what options you have.

<https://honeybeehealthcoalition.org/>

Drought may hurt honey bees

By SIERRA DAWN McCLAIN Capital Press Apr 28, 2021

Beekeepers and researchers say drought across the West this year will likely hurt honey bee colonies. Bees are expected to struggle most in California followed by Oregon, where meteorologists predict a hot, dry summer.

"I'm really worried about it," said John Jacob, beekeeper and owner of Old Sol Apiaries in Southern Oregon. "Seems like it's going to be extremely dry."

Honey bee colonies can typically handle extreme heat as long as they have access to uncontaminated water, pollination experts say. The more serious problem is a potential lack of pollen sources — especially during late summer. Lack of food sources can lead to colony collapse.

"Colonies are probably going to do really well this spring," said Andony Melathopoulos, pollinator health specialist at Oregon State University Extension. "There's enough moisture in the ground and a lot of things are still blooming. Where the rubber will hit the road — and it always does, it's getting worse and worse — is when blackberries stop blooming around the end of June. Then the 80,000 honey bee colonies in (Oregon) don't have a lot to go to."

According to the California Farm Bureau, beekeepers statewide are worried about diminishing food sources. Experts say it's important for bees to have access to late-blooming plants through August when the landscape is dry and brown.

Jacob, the beekeeper, said he's prepared to do whatever it takes to feed his bees through the drought, including feeding syrup. But this is expensive, and when beekeepers across the sector do so, it can drive up hive rental costs for farmers. Whenever possible, Jacob prefers feeding his bees by working with farmers who plant cover crops that flower during the summer.

Tucker Pyne, owner of the Lucky Elk Farm in Rogue River, Ore., is one farmer Jacob works with. Pyne runs a small organic farm producing hemp, vegetables, fruit and meat. Pyne uses cover cropping systems — a rare practice in the hemp sector, according to experts. He said his primary goal is to enrich his soil, and supporting pollinators is just a secondary benefit.

Jacob, the beekeeper, said he wishes more growers would consider planting cover crops. "It would make a huge difference," Jacob said.

Melathopoulos, the OSU researcher, is working on trials this year with cover crops and other blooming plants to find the ideal species that can help both farmers and pollinators. Melathopoulos is experimenting with Hubam clover, various legumes, forage chicory, phacelia and other plants. He's looking for plants farmers can use to enrich crop and livestock systems that simultaneously provide food for bees during droughts.

How honey bees rally to their queen

Scientists have found that the insects combine teamwork and odor chemicals to relay the queen's location to the rest of the colony, revealing an extraordinary means of long distance, mass communication.

Honey bees communicate with chemicals called pheromones, which they sense through their antennae. The queen emits pheromones to summon worker bees to fulfill her needs. But her pheromones only travel so far. Busy worker bees, however, roam around, and they, too, can call to each other by releasing a pheromone called Nasanov, through a gesticulation known as "scenting; they raise their abdomens to expose their pheromone glands and fan their wings to direct the smelly chemicals backward

Scientists have long known individual bees scented, but just how these individual signals work together to gather tens of thousands of bees around a queen, such as when the colony leaves the hive to swarm, has remained a mystery.

In the new study, Dieu My Nguyen, a computer scientist at the University of Colorado (CU), Boulder, and colleagues focused on a colony of western honey bees (*Apis mellifera* L.), the most common honey bee species in the world. The researchers set up a flat, pizza box–size arena with a transparent ceiling, in which the bees could walk around, but not fly. They tucked the queen bee into a cage on one side and released the worker honey bees on the other. The scientists then recorded the insects' movements from above with a camera; artificial intelligence software tracked bees that were releasing Nasanov pheromones.

Once the first worker honey bees located the queen, they began to assemble chains of evenly spaced bees that extended outward from the queen, with each bee wafting Nasanov to its neighbor down the line. The branching communication lines guided far-off honey bees back to the queen's location—a feat no single bee could achieve alone.

The researchers shed some light on how honey bees recruited one another into these scent relays. They noticed that bees in the relays spaced themselves about 6 centimeters apart. According to Peleg, this suggests the bees are detecting a certain amount of pheromones, dropping what they're doing, and joining in to pass on their own pheromones.

Nikk Ogasa <https://www.sciencemag.org/news/2021>

Cowlitz Beekeepers Association
Monthly Meeting
April 15, 2021

Meeting came to order at 6:59 p.m. 30 were in attendance.

Saturday 4-17-21 was Nuc delivery day. 51 people ordered 97 nucs. Original cost was \$136 per Nuc. Because of the amount of Nucs ordered, Foothills gave us a \$5 rebate per Nuc. Members picking up their Nucs can take the rebate or donate their rebate to the club.

If you would like to be on the swarm list, let Bill Holmes know. No swarms yet.

The proposal to the Kalama City Council was at the same time as our meeting at 7:00 p.m. Amanda Eastman went to the meeting. Our letter was well received.

Poll was taken on how many would like to take Dr. Ramsey's Beginner Beekeeping Class on Zoom. 56% yes, 33% maybe, 11% no.

Field Day at David Scott's out apiary is scheduled for May 22, 2021 at 12:00 p.m. weather permitting. Let Bill Holmes know if you are interested via email.

If you are interested in the 4th of July float, please contact Kathy Scott.

- Our guest speaker was Charles Vanden Heuvel. He spoke on "Swarm Triggers, Behavior and Who Leaves."
 - Bee timeline:
 - Egg 3 days
 - Larva 4 - 9 days
 - Capped day 9
 - Queen emerges 16th day
 - Worker bee emerges 21st day
 - Drones emerge 25th day
 - Book to read: Honeybee Democracy by Thomas Seely, a very good writer.
 - If you have questions about swarm triggers, contact Charles Vanden Huevel at BG Bees.
charlie.bgbees@gmail.com

DW Schoenthal will be our guest speaker for our May 20, 2021 meeting. He will be speaking on Beekeeping Hacks.

Meeting adjourned at 8:35 p.m.