



CENTRAL COAST BEEKEEPERS NEWSLETTER

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PRESIDENT'S MESSAGE

By Becca Fain

Well the bee year is winding up and I have much to share with you. First – our congratulations to our own Max Kuhn who has attained the highest level, Master Beekeeper, in the Oregon Master Beekeeper Program. Please see his article about his experiences in the program.

Also, wanted you to know that the club is selling coastal honey as part of the Florence Farmers Market “Fill Your Pantry” event. The proceeds will be used to fund further research on bee health and nutrition at the OSU Bee Lab. If you were not able to

extract honey this year or would just like to try some other coastal honey, you can go on line to pre-order honey (as well as some other scrumptious items) utilizing the What's Good web page – <https://sourcewhatsgood.com>. The preorder process will begin on October 26th and will close November 2nd with drive through/socially distanced pickup on Sunday, November 8th between noon and 3pm at the Siuslaw Middle School parking lot in Florence.

Another big item – the club leadership has decided to cancel the last two meetings of the year – October and November. We do not meet in December and the club board will utilize this month to put together a plan for 2021. It seems that we are all zoomed out and need a break. Hopefully, we will all be in a much better position next year to get back together at the Newport Library and begin to get back to normal. In the interim, board member Jim Parrish has put together a plan to be sure that club members still have resources to support them. He has broken the membership down into 3 groups:

1. People who are interested but have never kept bees.
2. People who are planning to get their first package in the spring
3. People who have kept a hive thru the summer or longer and want to talk with someone about how and what needs to be done to get the hive thru the winter. Or to discuss issues they are having with their hive(s).

He suggests that we offer the following:

Group 1. – We will suggest a bibliography to read and provide someone to talk with about bee keeping.

Group 2. – We will provide an experienced beekeeper consultant who can answer any questions about how to get started and where to get/make equipment and bees.

Group 3. - We will connect you with an experienced beekeeper who would be willing to consult with you about any bee keeping issues or concerns as well as issues specific to overwintering a hive.

If you are interested in participating in this new program. Please respond to the club's email – centralcoastbeekeepers@gmail.com and we will get you "hooked up".



My Oregon Master Beekeeper Journey

by Max Kuhn OMB, Master Level Student

I have been enrolled in the Oregon Master Beekeeper Program since it began in 2012. I had never really considered what I would do, if and when I should ever finish the program. I have just been enjoying the ride and what a great ride it has been! From the Apprentice level where I learned the basics like how, when, and why to conduct a hive inspection. How, what, and when to feed the bees, how to recognize swarm preparations and how to catch that swarm should I be so lucky. It has been a long time since those days. Now suddenly, very suddenly, in my judgement, they tell me I am about to finish! Naw...this cannot be. It seems like I just finished the Journeyman portion! Now that was the best, the Journeyman program! When I started it...well...I was no longer a beginner! I was something else... I had moved beyond the apprentice level and was learning then at a much faster pace. Learning things about diseases, pests of all kinds, treatments, dangers, efficacy, and mentoring. Harvesting honey, labeling, selling, legalities, on & on.

In the journey level, we were able to choose what we wanted to learn! Yes, there is a lot to choose from, the list is long because there is so much to learn. I cannot imagine trying to become a true beekeeper without this structured, organized approach to the learning effort which is available through this OMB program. Now I find myself in the last portion of the Master Level. Wow, I do not feel like a Master. But I am more confident in my beekeeping, and I do feel more in control of my future beekeeping efforts. In this final portion of the program I have been given the tools, instructions, and resources necessary for continuing my beekeeping education. I know now that the learning never stops. The search goes on forever, better ways, more education, more understanding, updating, and problem solving. When we choose to study, manage, and live with the Honey Bee, which has successfully existed for millions of years, we have a lot of catching up to do.

Thanks to the OMB, OSBA & OSU staff, all the contributors to the program and fellow students for tolerating me these last several years. This is not "good bye" I plan to be around, underfoot and in the way as usual. But maybe not as frequently. My best to you all! BTW it does not take everyone this long to finish the program!

Big Thanks from Britte Kirsch

I just wanted to pass along a big thank you to everyone who donated their honey to the Fill Your Pantry Event in November and of course thanks to Becca Fain for organizing and coordinating it for us.

Thanks so much.



Excess Moisture: suggestions from Andony Melathopoulos, OSU Assistant Professor of Pollinator Health

Bees create moisture in the hive during winter. Too much moisture and humidity in the hive can cause condensation in the hive, which in turn can drip cold water on your bees and cause them to die. To combat this, you need some type of ventilation and something to absorb the moisture.

There are different methods you can use: Moisture box, foam insulation board or a Vivaldi Board. Andony recommends beekeepers provide at least 3/4 square inches of ventilation in every hive during the winter. Some beekeepers prefer to drill auger holes in hive bodies or use spacers or inner covers designed to allow air ventilation. Then you need some kind of insulation under

the lid and he suggests 1" rigid insulation on the top of the inner cover under the lid. Use a brick on top to secure. He prefers this over burlap.

Another option is the Vivaldi board & Screen: The screened vent slots provide ventilation in the hot months and mitigates moisture build-up. The Vivaldi Screen™ enables moisture to efficiently wick moisture into the Vivaldi board by increasing the surface area of absorption.

You could use burlap, wool, cedar shavings or other natural material. You can also provide emergency winter feeding of dry sugar directly through the screen.



Fall Dead Outs

by Dr. Dewey M. Caron

How are you doing for mite control this fall? August through October represents peak mite populations and control during this period is usually needed for successful wintering. Starting in October, however, may not be enough. If you have dead outs this month, I recommend you pick them up and avoid bee robbing. Look carefully at your dead outs to be sure it was not something other than Parasitic Mite Syndrome (PMS).

With robbing common in weak and dying colonies, it is sometimes exceedingly

difficult to tell if dead brood was because of a disease. This is especially true when the bees puncture capped brood cells, apparently looking for food. How to tell the difference? European Foulbrood (EFB), sacbrood and chalkbrood kill larvae before cells are capped. Look at cells with larger larvae for these diseases. You may see symptoms that resemble EFB for the condition we call “snot” or “crud” brood. Starving larvae may be twisted and you might even see some roping of larval remains. Dying brood will be grayish (not yellowish which would be EFB) and it will come out easily. Deadouts can really call into play your disease identification skills. Look for robbing of honey. You will see jagged cells, pieces of white stuff toward outer edge of cells below the robbed section. There may be some oozing of liquid from cells and a soggy mess on the bottom board. That will tell you robbing has happened –if there is still some honey left or the oozing liquid, it just means you have picked up the colony before robbing was completed.

Robbers puncture capped cells. If you see lots and lots of punctured brood cells it is merely due to robbers as there are no adult bees left to protect and care for the brood. Cappings may sag and may look wet. Look for jagged cell edges, not the rounded outer normal edge. Pull off the cappings of punctured cells to examine the decaying pupal remains. It is sometimes hard to tell that it was a pupa. Do the decaying remains come out of the cell? If it does that characteristic helps to eliminate American Foulbrood (AFB). Does it rope out? If it is only a short ½ inch and it is grayish-blackish color that also helps eliminate AFB. If there are still some bees (but too few compared to a month ago) look at cells that have been uncapped. Can you still see a head? If not, has the pupa been chewed? This is the adult bees uncapping cells with mites. Look for mites on the remains or mite poop on the upper side of the cells about half way down the side. Seeing them helps confirm Parasitic Mite Syndrome (PMS). You may also see some white maggots feeding on the remains, those are fly maggots. They complicate your diagnosis because they cause faster breakdown of what was a larva or in capped cells what was a pupa. You will see them mostly in the cells with the perforations. You might even see a line of silky webbing which is wax moth or a caterpillar at one end of the tunnel. Next time you open up a dead hive you may feel more comfortable now diagnosing your hive’s demise.

What effect will the 2020 fires have on bees?

Reprint (with edits) from the Extension Service

If 2020 couldn't get any worse, it has. We are facing the worst series of fires in the state's history. And it seemed to come out of nowhere. It was nice on Labor Day and then the smoke appeared. Thousands of people have been evacuated from or lost their homes.

In the midst of this all, OSU Extension has received questions from gardeners and the public wondering what effects fires have on bees. People have noticed that the bees have suddenly stopped flying. People wonder whether honey bee colonies are being choked by the smoke. People want to know that in spite of all the mayhem and loss "Will the bees be okay?".

In this article we discuss what is known about the effect of forest fires on bees, how bees respond to the land ravaged by fire and how you can help bees while also protecting your property from future fires.

Honey bee colonies

The fires will be disruptive to the state's 80,000 bee colonies. As the time of writing, a number of apiaries are at risk of being consumed by the advancing flames. If you recall, 10,000 colonies were lost to the massive brush fires in New South Wales, Australia in 2019-2020. [Already in California there are reports of large apiaries that are lost.](#)

Fires move quickly and an apiary can turn into a pile of ash in hours. But even among surviving colonies, beekeepers are struggling to get to their apiaries ready for winter. These preparations are particularly important to ensure high colony survival over the next five months.

Wild bee nests

By now, most of the state's native bees have completed their reproduction and are hunkering down in nests for winter. But the susceptibility of these nests depends on where they are located. About 70% of our bee species nest in underground chambers. While soil temperatures can be very hot directly at the surface of a fire, they can fall to normal temperatures just 4 inches down.

Although we don't exactly know the average depth our bees nest in Oregon, [a global survey estimated that over 75% put their young in chambers deeper than 4 inches.](#)

So, most of these bees won't even notice the fire.

But around 30% of our bee fauna nest above ground in twigs and stems, including small carpenter bees, mason bees and leafcutting bees. Nests of these bees that are not directly burned, will likely overheat and die. Research by the [OSU Forest Animal Ecology Lab](#), for example, noticed a conspicuous absence of typically common stem-nesting small carpenter bees 5 years after the big Douglas Complex Fires in southern Oregon.

Smoke and bee behavior and physiology

Many people noticed something was wrong with the bees when the smoke rolled in; they suddenly weren't visiting the flowers like they were when it was clear. One reason

is that smoke lowers temperatures and bees less active when it's cooler. A second answer comes from [a Swedish research group](#) who were studying the qualities of light around forest fire haze in Alaska.

Many insects, including bees, use the pattern of polarized light in the sky as a kind of compass to know where they are going. These patterns are invisible to us, but appear to bees as varying levels of polarized light in the sky. Bees use these gradations in polarized light as guideposts to navigate from their nest and to flowers and back. These patterns are maintained even when it's cloudy. But apparently, this pattern gets very distorted once that red-haze sets in. Most significantly, the amount of polarized light in the sky can fall to levels below what a bee can discern, but also the pattern shifts.

Essentially, the strength of the polarization "compass" that bees use not only gets weaker, but it also points the bees in a different direction than normal. Getting to a flower gets to be a very hard task. At this time, beekeepers are reporting bees are flying normally from the colony and collecting pollen, so their absence in gardens may indicate they are taking shorter flights to flower-patches closer to home.

The ash itself may interfere with the ability of bees to breathe, smell, taste, as well as have other effects on their physiology. Although there is very little research on these effects, one group of researchers observed that when they exposed butterflies to simulated smoke conditions, the ash particles didn't work their way into the butterfly respiratory system, but nonetheless reduced the survival and growth-rate of caterpillars. They

interpret their results to mean that the ash isn't interfering with breathing as much as it is poisoning the larvae as they consume the toxic material contained in the ash.

Post wildfire effects

There is a bright spot in all this gloom. Very few bees live in closed canopy forests. For this reason, bee diversity and abundance typically increases in the years following a fire.

Think of it -- there is a huge flush of flowering forbs and shrubs that puts thousands of acres of new bee food in the landscape in the span of a few years while also creating open habitat in areas that were previously closed canopy forest. This was certainly the case following the massive 2013 Douglas Fire Complex in southern Oregon.

As we alluded to earlier, the OSU Forest Animal Ecology Lab [surveyed these burned areas after 4 and 5 years following the fire](#). Remarkably, they found in areas where the fire was most severe, bee abundance and species richness were the highest. They also found that the blue orchard bee was able to rear its offspring across the gradient of fire severity, and produced more females at higher fire severity levels.

One reason for this boost was undoubtedly caused by the fact that the diversity of the flowering plant community that supported these bees was also enhanced by high intensity fires; another was that the open areas had more favorable temperatures for bee foraging. Their work suggests that periodic forest fires are part of a regular pattern of success of bee communities across the state,

and that wild bees help post-fire habitats return to functioning ecosystems.

“How can I help?” after the clean-up

After things return to some semblance of normality, it's time to think about landscaping for bees in a way that is “fire safe”. That means if people live in fire-prone areas they should practice fire-resistant landscaping, using plants that feed-bees but that do not add to the fuel-load. And it means planting in a way that ensures a defensible space around your home. [OSU Extension has a great publication to help you balance fire-preparedness and planting for bees.](#)

Read more

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Washington state officials hunt murder hornet nests before ‘slaughter phase’

Frantic search under way in the state before Asian hornets embark on a murderous rampage among honeybees

Oliver Milman *in New York*



Six hornets have been sighted or trapped near the city of Blaine in Washington in the past two weeks. Photograph: Elaine Thompson/AP

Officials in Washington state are conducting a frantic search for a nest containing Asian giant hornets, [also known as murder hornets](#), before the creatures enter what is known as their “slaughter phase”.



Six hornets have been sighted or trapped near the city of Blaine in the past two weeks, prompting authorities to launch a hunt before the hornets embark upon a murderous rampage among honeybees.

“Asian giant hornets this time of year start going into what we call the slaughter phase,” [said](#) Sven-Erik Spichiger, an entomologist at the Washington state department of agriculture.

In this phase, the hornets launch attacks on honeybee colonies, decapitating workers and dividing up their bodies as food for their young. The prospect is worrisome for farmers who rely on the bees to pollinate key crops, such as blueberries and raspberries.

The Asian giant hornet, called the murder hornet due to its ferocious reputation, was spotted in North America for the first time last year, first appearing [in British Columbia in Canada](#) before spreading across the border [into Washington state](#). It is likely the hornets arrived from eastern Asia via a shipping or aircraft container.

[Washington state](#) officials managed to trap a live hornet for the first time on 30 September. However, an attempt to glue a tracker to the insect, to lead investigators to the nest, failed after the glue instead gummed up the hornet’s wings.

About a dozen hornets have been discovered in Washington state. While the creatures pose the greatest threat to bees, they can also deliver a painful sting to people, an experience likened to hot tacks thrust into flesh. Repeated stings can lead to death: in Japan, the fearsome territorial insects kill about 50 people a year, many as a result of allergic reactions.

Entomologists have placed traps around Blaine, close to the Canadian border, and have appealed to residents to report sightings. The hornets have been mistaken by some

people for large bees but are quite distinctive, growing up to two inches long and with large teardrop-shaped eyes.

If they are able to establish themselves in Washington state, the hornets may be able to push into California. Should they be transported to the east coast, the hornets would find highly suitable surroundings in the New York area, entomologists say.

Washington state officials again fail to live-track ‘murder’ hornet

By **SALLY HO** (Associated Press)

SEATTLE Oct. 13, 2020 6:56 a.m.

Washington state officials said Monday they were again unsuccessful at live-tracking a “murder” hornet while trying to find and destroy a nest of the giant insects.

The Washington State Department of Agriculture said an entomologist used dental floss to tie a tracking device on a female hornet, only to lose signs of her when she went into a forest.



In this Oct. 7, 2020, photo provided by the Washington State Department of Agriculture, a live Asian giant hornet is affixed with a tracking device before being released near Blaine, Wash. Washington state officials say they were again unsuccessful at live-tracking an Asian giant hornet while trying to find and destroy a nest of the so-called murder hornets. The Washington State Department of Agriculture said Monday, Oct. 12, 2020, that an entomologist used dental floss to tie a tracking device on a female hornet, only to lose signs of her when she went into the forest.

Karla Salp / Washington State Department of Agriculture

The hornet was captured on Oct. 5 and kept alive with strawberry jam, which she seemed to enjoy, said Sven Spichiger, a department entomologist.

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Scientists then tied a tracking device onto her body and released her two days later onto an apple tree. They lost track of her after she went through some blackberry bushes, though officials believe the tracker was still attached at the time of its last signal.

“This one was a lot feistier,” Spichiger said.

A total of 18 hornets have been found in the state since they were first seen last year near the U.S.-Canadian border, the agriculture department said.

Officials earlier in the month reported trying to glue a radio tag to another live hornet so they could follow it back to its nest, but the glue did not dry fast enough. The radio tag fell off and the hornet ultimately could not fly.

The Asian giant hornet — the world’s largest at 2 inches (5 centimeters) — can decimate entire hives of honeybees and deliver painful stings to humans. Farmers in the northwestern U.S. depend on those honey bees to pollinate many crops, including raspberries and blueberries.

Despite their nickname, the hornets kill at most a few dozen people a year in Asia, and experts say it is probably far less. Hornets, wasps and bees typically found in the United States kill an average of 62 people a year, the Centers for Disease Control and Prevention has said.

The real threat from the “murder” hornets is their devastating attacks on honeybee hives, and the time of year when they attack those hives is nearing, Spichiger said. He called it the “slaughter phase.”

Scientists 'scent train' honeybees to boost sunflowers' seed production

If you want a dog to hunt something down, it helps to let them sniff an item to pick up the scent. Now, researchers reporting in *Current Biology* on September 17 have found that scent training honeybees in the hive might work in a similar way -- and that this approach could make bees more efficient in pollinating a desired crop. The findings show that honeybees given food scented with odors that mimicked sunflowers supported a significant increase in sunflower crop production.

"We show that it's possible to condition honeybees to a rewarded odor inside the colony, and this experience modifies the bees' odor-guided behaviors later," says Walter Farina of Universidad de Buenos Aires, Argentina. "The most surprising and relevant result is that the foraging preferences for the target crop are so prolonged and intensive that it promoted significant increases in the crop yields."

Farina's team had previously shown that honeybees could establish stable and long-term memory related to food scents inside the nest. They also knew that those in-hive memories could influence the bees' choices about which plants to visit later.

To raise bees with a memory that would support later foraging on sunflowers, the researchers first developed a simple synthetic odorant mixture that the bees associated with the natural floral scent of sunflowers. Next, they fed the hives with scented food. They found that those early experiences and memories of the scent of sunflower influenced the bees' later foraging preferences, as inferred by decoding their waggle dances.

The bees' training led them to visit sunflowers more. Those trained bees also brought more sunflower pollen back to the hive. This increased visitation and foraging on sunflowers also boosted the flowers' production of seeds by 29 to 57 percent.

"Through this procedure, it is possible to bias honeybee foraging activity and increase yields significantly," Farina says. "In other words, pollination services might be improved in pollinator-dependent crops by using simple mimic odors as part of a precision pollination strategy."

The researchers say they are now studying other pollinator-dependent crops, including almonds, pears, and apples. Ultimately, their goal is to develop an array of new odor mimics to improve pollination efficiency and productivity of many important agricultural crops.
