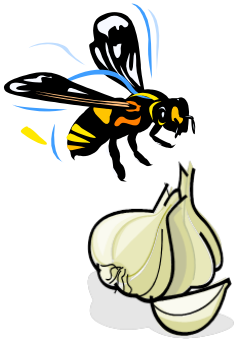

The Buzzz

The Monthly Newsletter of the Gilroy Beekeepers Association

Randy Fox, Editor
secretarygba@gilroybees.com

Volume 44 August 2016

In This Issue

A Special Presidents Message

by Wayne Pitts

Farewell, all good things must end, some day. For the past 16 to 17 years I have been blessed to be the President of the Gilroy Beekeepers Association. It has been a wonderful experience and I wish to thank each of you for your support over the years. We, all of us, have built the organization into one that has accomplished many things and will continue to have great achievements. September is fast approaching when we start year 20 of the Association. Nominations for the next group of officers will be taken in August with the election to be held in September. Please consider becoming an officer.

Dave Stocks and I are the only 2 remaining original members. A lot of positive things have happened over the years with respect to furthering the cause of beekeeping here in the South Valley. More beekeepers, more awareness of the importance of bees, but sad to say, fewer swarms as it is harder to keep bees.

I am not going away; just stepping aside to concentrate on traveling with Susan while I am still able, and enjoying our grandkids. And I will still keep bees, but not as many as I used to.

Thanks for all of your confidence in allowing me to lead the group, and I wish each of you a sharp hive tool, easy to light smoker, and gentle bees.

Wayne

GBA News

Nominations and Election of officers

Current officers are:
Immediate Past President – Open (to be filled by Wayne Pitts)
President - Wayne Pitts
Vice President - Dave Stocks
Secretary - Randy Fox
Treasure - Vicki Basham

The office of President, Vice President, Secretary and Treasurer are for one year terms. Election of officers are held at the September meeting. All nominations need to be received by the end of the August 2, 2016 meeting. If you are interested in being an officer, or would like to nominate someone, please contact Randy Fox at secretarygba@gilroybees.com or Dave Stocks at dave.stocks@yahoo.com

Below is a description of the duties and responsibilities of the club officers as stated in our By-Laws

Immediate Past President
Preside over general meetings in the absence of the President and Vice President.
Offers advice and consultation as requested by the current board.

President
Preside over general meeting.
Form committees and assign committee members as needed.
Call and preside over board meetings as needed.

Vice President
Perform the duties of the President when the President is unable to do so.
Act as Chairman of the Public Relations Committee.

Secretary
Update and maintain all social media sites including, but not limited to, Facebook, Evites, Twitter`and the Gilroybees.com website.
Edit and publish the monthly newsletter
Record and report the minutes of board meetings.

Treasurer
Maintain the finances of The Association as described in Article V. “Meetings and Business Procedures” Section C. “Finances”.
Maintain enrollment records and process new and continuing memberships as described in Article III “Membership” Section C “Enrollment”.

Another note from the President

Research

We raise money for research by having our raffles at the meetings. Last year we donated the raised funds to the UC Davis Master Beekeeper Program. We select the recipient at the September BBQ. This year we have three worthy places to choose from.

California State Beekeepers Association Research Fund. The CSBA allocates approximately $100,000 each year to research. Researchers are invited to propose their projects and the selection committee selects 5-7 projects for funding. Since the CSBA is composed mainly of commercial beekeepers who have mortgages to pay and lots of expenses, the goal is usually to find solutions to problems that are directly affecting the bees and the member's ability to continue being a beekeeper.

Project Apis M funds research studies, purchases equipment for bee labs at our universities, supports graduate students and provides scholarships to young bee scientists to encourage their pursuit of science-based solutions to honey bee challenges.

UC Davis Master Beekeeping Program. The mission of the California Master Beekeeper Program is to provide science-based education to future stewards and ambassadors for honey bees and beekeeping. The Apprentice level is designed to build a solid foundation of basic beekeeping skill and knowledge. Participants may stop at this level or continue on to the more advanced levels: Journeyman and Master levels. Raised funds are used to purchase bees and equipment to further the above objectives.

Please be ready in September to vote for the group that you think most deserves our help.

Wayne

Photo of the Month

Bees on Blanket Flowers
Photo: Randy Fox

News from the Bee World

The follow items come courtesy of Western Apiculture Society.

HSI Chicago seizes nearly 60 tons of honey illegally imported from China, AGAIN!!!

Special agents with U.S. Immigration and Customs Enforcement's (ICE) Homeland Security Investigations (HSI) again seized nearly 60 tons of illegally imported Chinese honey Wednesday that was destined for U.S. consumers.
The smuggled honey was contained in 195 55-gallon drums that were falsely declared as originating from, where else, Vietnam, to evade anti-dumping duties applicable to Chinese-origin honey.
The honey likely originated from the same exporter in Vietnam as another 60 tons of honey that was seized by HSI Chicago in the Midwest in April.

http://www.beeculture.com/catch-buzz-hsi-chicago-seizes-nearly-60-tons-honey-illegally-imported-china/

LATEST STUDY FROM DR. JONATHAN LUNDGREN

A new study was just published. http://www.nature.com/articles/srep29608
Neonicotinoids were found to contaminate conservation strips meant to conserve pollinators on organic farms. The quantity of clothianidin found in the bee pollen was negatively correlated with declines in bee health.

DR. MALCOLM SANFORD AND HIS APIS NEWSLETTER

Dr. Malcolm Sanford's Apis Information Resource News website and excellent newsletter is available at http://beekeep.info/apis-newsletter. In this issue, he comments (and provides links to) several programs that assist returning soldiers to re-establish civilian life as beekeepers, opportunities through the now-open Core Fullbright Scholar Program, and extension efforts in various places. Sign up to get regular updates.

A CALL FOR HELP FROM THE HIVE TRACKS COMMUNITY!

We are pleased to announce that Hive Tracks has been awarded the Healthy Hives 2020 grant through Project Apis m. The goal of this funding is to create a standardized data platform that allows for consistent and reliable data collection techniques among commercial and backyard beekeepers. The expected outcome is to improve best management practices for modern beekeepers leading to improved yield, performance and bee health.
How Can You Help?
Become a citizen scientist! As a citizen scientist, you will be influential in determining the most critical data to impact the health of honey bees!
Let's begin!
Step 1 – Complete our short 'Citizen Scientist Survey' by clicking here: https://hivetracks.typeform.com/to/aK4dmU.
Step 2 – Join Hive Tracks now and get your first month FREE!
Step 3 - Once you sign up by completing our survey, we will send you an invitation to join a special "Citizen Science Group" on Hive Tracks. Here you can get connected with other beekeepers who are participating as citizen scientists.
Step 4 – We will keep you routinely updated via email and share the results that you help create.
Thank you for your help with this effort to use data science to improve global bee health and productivity!

Happy beekeeping,
Hive Tracks Research Team

The follow items come courtesy of Bee Culture Magazine.

Bees' Ability to Forage Decreases as Air Pollution Increases

PENN STATE

Air pollutants interact with and break down plant-emitted scent molecules, which insect pollinators use to locate needed food, according to a team of researchers led by Penn State. The pollution-modified plant odors can confuse bees and, as a result, bees' foraging time increases and pollination efficiency decreases. This happens because the chemical interactions decrease both the scent molecules' life spans and the distances they travel.

While foraging for food, insects detect floral scent molecules in the air. Wind currents can carry these molecules up to thousands of feet from their original source to where bees have their hives.

"Many insects have nests that are up to 3,000 feet away from their food source, which means that scents need to travel long distances before insects can detect them," said Jose D. Fuentes, professor of meteorology and atmospheric science, Penn State. "Each insect has a detection threshold for certain kinds of scents and they find food by moving from areas of low concentrations of scents to areas of high concentrations."

Plant-emitted hydrocarbons break down through chemical interactions with certain air pollutants such as ozone. This breakdown process results in the creation of more air pollutants, including hydroxyl and nitrate radicals, which further increase the breakdown rate of plant odors.

The researchers sought to understand how these chemical interactions, which start with the presence of air pollutants, would impact bees' ability to find food. They first estimated the changes in concentrations of flower scents as a result of air turbulence and chemical interactions using a computer simulation, which allowed them to track the concentration and movement of multiple plumes of scents from different flower beds over time. Then, the researchers ran 90,000 simulations representing various bees' foraging and movement patterns amid differing scent levels modified by air pollution and diluted by wind speeds.

The team reported in the current issue of *Atmospheric Environment* that, as air pollution increases, hydrocarbons' lifetime and travel distance decreases. For example, at 60 parts per billion ozone levels, which the U.S. Environmental Protection Agency considers a 'moderate' level, the researchers found that enough chemical changes took place to thoroughly confuse bees and hinder their ability to identify the plumes of floral scents they needed to locate food.

The scent molecule alpha-pinene, which survives nearly 40 hours in an ozone-free environment, survived fewer than 10 hours when ozone rose to 60 parts per billion and only 1 hour when ozone was at 120 parts per billion. Another molecule, beta-myrcene, which travels more than 3,000 feet in an ozone-free, windy environment, traveled an average of 1,500 feet when ozone was 60 parts per billion and, when ozone rose to 120 parts per billion, most traveled fewer than 1,000 feet.

The changes in air chemistry impacted the number of bees able to detect food sources in a given time frame. In an ozone-free environment, it took 10 minutes for 20 percent of foragers to find the scent molecule beta-caryophyllene. When ozone rose to only 20 parts per billion, it took 180 minutes for the same amount of bees to find the scent. The team found similar results for the six different scent molecules they analyzed.

"We found that when we confused the bees' environment by modifying the gases present in the atmosphere, they spent more time foraging and would bring back less food, which would affect their colonies," said Fuentes. "It's similar to being asked to get a cup of coffee at the nearest cafeteria while you are blindfolded. It will be hard to locate the coffee shop without using visual cues. The same could happen to insect pollinators while foraging for food in polluted air masses."

Because the concentration of scents changes drastically in air polluted environments, this could impact important interactions between plants and insects.

"There are two types of pollinators, generalists and specialists," said Fuentes. "Generalists can detect a mixture of scents, while specialists can only detect one type of scent. This means that as certain scents decrease their travel distance and life span, specialists and generalists may both have trouble finding food."

Declines in the pollination of wild plants may lead to increases in the population of plants that do not rely on pollinators, and pollinator declines would lead to decreases in crop yields, Fuentes noted. These findings highlight that air pollution is one of many factors influencing the decline of the bee population.

According to the U.S. Department of Agriculture, managed honeybee populations in the U.S. have declined between 25 and 45 percent per year since 2010, including a 44 percent decline from 2015 to 2016.

"Honeybees and other pollinators are in trouble almost everywhere, and they pay us a lot of services through their pollination," said Fuentes. "The more we can understand about what factors are affecting their decline in numbers, the more equipped we will be to intervene if needed."

Catch He Buzz – Neonicotinoids can jeopardize the normal development of honey bee larvae

By Alan Harman

European researchers say they have found a previously unknown and harmful effect of neonicotinoids on honey bees – neonicotinoids in low and field-relevant concentrations reduce the concentration of acetylcholine in the royal jelly/larval food secreted by nurse bees.

The researchers at the Mainz University Medical Center and Goethe University Frankfurt in Germany say this signaling molecule is relevant for the development of the honey bee larvae.

At higher doses, neonicotinoids also damage the so-called microchannels of the royal jelly gland in which acetylcholine is produced, the researchers say in a paper published in the journal PloS ONE.

"The undesirable effect of neonicotinoids now discovered is a further indication that these insecticides represent a clear hazard to bee populations and this is a factor that needs to be taken into account in the forthcoming reassessment of the environmental risks of this substance class," says Prof. Ignatz Wessler of the Institute of Pathology at the University Medical Center of Johannes Gutenberg University Mainz.

Wessler worked with Prof. Bernd Grünewald of the Bee Research Institute at Goethe University Frankfurt to uncover the previously unknown damaging effect of neonicotinoids that impairs the development of honeybee larvae.

They are able to directly demonstrate that neonicotinoids reduce the acetylcholine content of the larval food produced by nurse bees. Acetylcholine is a signaling molecule produced in the microchannels of the royal jelly gland of nurse bees. Comparable to neonicotinoids, it stimulates the nicotinic acetylcholine receptors that are also present in this gland.

"In lab tests we artificially removed acetylcholine from the larval food and the result was that bee larvae fed with this died earlier than bee larvae that received food containing acetylcholine," Wessler says.

To examine the effect of neonicotinoids on the acetylcholine content in the jelly in more detail, bee colonies were exposed to various concentrations of neonicotinoids in flight tunnels.

"This exposure led to a reduction in the acetylcholine content of the jelly," Wessler says. "Thus we were able to demonstrate that the field-relevant dose of the neonicotinoid agent thiacloprid (200 µg/kg) significantly reduces acetylcholine content by 50 %.

"On exposure to higher doses, we were even able to verify that acetylcholine content can be reduced by 75%. Exposure of the bees with the higher doses results in serious damage to the microchannels and secretory cells of the jelly gland.

"Our research results thus confirm that the neonicotinoids can jeopardize the normal development of honeybee larvae."

The European Un ion in 2013 imposed temporary restrictions on the use of three neonicotinoids – clothianidin, imidacloprid, and thiamethoxam – after it was reported in several scientific publications that high but not lethal doses of various neonicotinoids could be associated with the falls in the populations of wild bees, bumblebees, and queen bees.

Also reported were abnormalities in breeding activity and impaired flight orientation in the case of honeybees.

However, at the time there were critics of these reports who pointed out that, among other things, the researchers had used high, non-field-relevant doses of neonicotinoids and had carried out their experiments under artificial laboratory conditions.

This month in the Beeyard

My August Beekeeping To-Do List

By
Serge Labesque

Bees on autopilot

The yearly schedule of hive inspections I try to follow unfolds this way:

Around the end of January or in early February, on a nice sunny and windless day, I perform cursory inspections of the upper parts of my hives. This is done without disturbing clusters or brood nests, as they are fragile at this time of year. On these occasions, some amount of additional space is frequently provided to the colonies.

In early spring and all through the period of rapid colony development that leads up to the propagation of colonies, the hives and in particular their brood nests are inspected once every week to ten days, weather permitting.

After the swarm season, from mid-spring to late summer, open-hive inspections are brief and much less frequent. The brood chambers are rarely exposed then, and these approximately monthly visits are limited to monitoring the development of young colonies and the contents of the honey supers of mature hives.

Between the end of August and the end of October, three inspections spaced about one month apart easily suffice to assess and prepare the colonies for winter.

Then, the bees are left undisturbed until the following year, when this cycle begins again.

However, I also enjoy walks in the apiaries at any season to observe the exterior of the hives, the flight paths and the hive entrances, as well as to examine the debris found on the ground in front of the hives and on the monitoring trays. Only under exceptional circumstances such as during occurrences of queen or health issues, do I perform additional open-hive inspections.

So, aside from springtime and the late summer-early fall, my bees are pretty much on autopilot, but they are not abandoned.

Every open-hive inspection and manipulation sets the colony back. At times, such as during winter, when there is virtually nothing we can do for the bees, hive manipulations can spell disaster. Yet, spacing hive inspections apart requires a fair knowledge of bee biology and of the local weather and honey flows in order to anticipate the upcoming needs of the colonies. Many clues that allow us to spread our hive inspections apart are found in the brood nests. Indeed, the quantity and pattern of the young brood indicate not only how the queens are presently performing, but also what the outlook for the colony populations may be, sometimes several weeks in advance. Considering that bees have made it through millions of years without our questionable help, there is no good reason to be afraid of leaving them to their own devices for a few weeks or months at a time. I keep in mind that if I cannot do enough good for the bees to compensate for the harm I impose upon them when I access their combs, I might as well abstain from disturbing them.

Beekeeper burn-out is real. To avoid it, don't hesitate to let the bees do their thing while you relax, especially when little is going on in the apiaries or when there is not much you could do for them. Then, return to the hives refreshed, re-energized and excited to visit them when it matters.

August in the apiaries

Small Hive Beetles showed up in my hives for the first time this summer. Although this was not a complete surprise, it still is a reason to be angry. Not at the pest, but at all those who facilitate its spread.

The beekeepers who move bees, who bring packages, nucs and queens from outside the area are the culprits behind this sort of problem. You'll hear them blame mites, chalkbrood, Nosema ceranae, new viruses, Africanized bees or what-not for the demise of bee colonies and for the headaches we endure. And yet, none of these troubles would be here if beekeepers had left them in their areas of origin. Too many beekeepers, bee breeders and scientists caused these exotic organisms to become widespread problems. Since I do not buy bees, I know that it is possible to have bees, very good bees, without getting them from commercial producers and contributing to the dissemination of bee pathogens.

Unfortunately, our bees have not yet faced all the pathogens and parasites that exist. We know that there are more overseas, if they have not already been introduced. For example: *Tropilaelaps clareae,* which could be worse than varroa mites; the dreadful Asian hornet; and who knows what else is out there? What we don't know can hurt our bees.

The colonies I keep have to adjust to this new pest, and so do I. My plan is to reduce the volume of my hives earlier in August than I would normally have done. This way, the bees will be able to patrol all areas of the hives and keep the beetles in check. Surplus honey will not be left in the hives longer than is necessary to ripen it, and it will be processed without delay.

It has been several years since we had an early-summer honey flow in this area. One materialized this year. Therefore, most colonies are faring very well. We even harvested some spring honey and ample supplies were left in the hives in anticipation of our usual summer nectar dearth.

Moreover, it's time to start thinking about next fall and winter. Although summer hive management focuses predominantly on managing honey supers and monitoring young colonies, by the end of this month we will need to know more about our colonies, about their strengths and weaknesses: Are they healthy? Do they have enough stores? Are they keeping the mites in check? Are their queens likely to make it to next spring? Are they conveying desirable characteristics to the colonies? And here is probably one of the most important criteria to help identify locally adapted bees: Are they responding to the cues of the season and spontaneously preparing their hives for winter? Having gathered all this information, we can decide how to manage our hives during the end of summer and in early fall in order to get them ready for winter. Fortunately, we still have enough time to combine or requeen weak, failing, or undesirable hives.

Every day between spring and fall, the colonies are working to prepare for winter. They accumulate and methodically organize their stores and brood chambers. We need to facilitate their work without disturbing the arrangement they create.

Even though our colonies do not require much attention from us in mid-summer, there are dangers we need to be aware of. These include the risk of robbing, the increasing threat presented by yellowjackets, and the populations of varroa mites, which are rapidly growing at this time of year. Reducing the hive entrances to the point where the bees can easily defend themselves is usually all we need to do in regard to the predators. But when it comes to keeping the mites under control, the bees have to be able to do it. We need to recognize that, unfortunately, not all colonies are able to handle the pest. A few nucs with young queens produced in the spring from adept hives offer a chance to replace or requeen the colonies that are failing at this.

Providing some protection from the intense heat and sun can help the colonies and save honey by reducing the demand for water-foraging activity.

By the end of the month, hive space management will be decidedly the opposite of spring management. We will begin to gradually reduce the volume of the hives. This can be done by harvesting some surplus honey and by removing unused frames and combs. It's a good opportunity to take old and misshapen combs out of use. They will be melted down in no time in the solar wax melters.

In summary, this month:

- Observe the performance of the queens and colonies. Take notes for later selection, combination or replacement.
- As always, keep an eye on the health of the colonies.
- Avoid hive manipulations that can trigger robbing.
- Ensure that the bees have access to water at all times.
- Ensure that the hives are adequately ventilated. Providing afternoon shade is helpful.
- Begin to reduce the unused volume of hives.
- Cull old and misshapen combs.
- Harvest surplus summer honey.
- Give extracted supers and cappings back to the bees for cleaning. To avoid triggering robbing, this should be done in the evening, when foragers are returning to their hives.
- Beware of the fire danger when using the smoker in areas of dry vegetation.
- Beware of yellowjackets and of the risk of robbing. Reduce the entrances of the hives that are threatened.
- Requeen or combine hives that are not performing satisfactorily, and those that have failing queens.
- Render wax from discarded frames and from cappings. The solar wax melter works very well at this time of year.
- Routinely clean and scorch tools and equipment.

Plant of the Month

by Randy Fox

Eucalyptus *(Eucalyptus globulus*)

In the 1850s, Eucalyptus trees were introduced to California by Australians during the California Gold Rush. Much of California has a similar climate to parts of Australia. By the early 1900s, thousands of acres of eucalypts were planted with the encouragement of the state government.

Blue gum (*Eucalyptus globulus*) is a tall (150-180 foot), aromatic, straight-growing tree, with bark that sheds in long strips, leaving contrasting smooth surface areas. Adult leaves are waxy blue, sickle-shaped, and hang vertically. Juvenile leaves are oval, bluish green, and have square stems. Fruits are blue-gray, woody, and ribbed. Trees produce abundant fruit drop and leaf and bark litter. Blue gum is distinguished by tall growth habit, smooth bark, long leaves, and large, solitary, waxy buds and fruits

The most readily recognizable characteristics of eucalyptus species are the distinctive flowers and fruit (see the photo above). Eucalyptus flowers produce a great abundance of nectar, providing food for many pollinators including bees, birds, bats and possums. Although eucalyptus trees are seemingly well-defended from herbivores by the oils and phenolic compounds, they have insect pests. These include the eucalyptus longhorn borer and the aphid-like psyllids known as "bell lerps", both of which have become established as pests throughout the world wherever eucalypts are cultivated.

The eucalyptus flowers provide nectar for bees especially when other flowers aren't available. Some species bloom continuously and hence a constant supply of nectar is available. Besides being a food, some claimed that eucalyptus honey could settle nerves and relieve irritation in the mucous membranes. Mono-floral eucalypt honeys include Jarrah, Yellow Box. Grey Box, Blue Gum, River Red Gum, Iron Bark, Stringybark and Messmate. Eucalyptus honey varies greatly in color and flavor, but in general, it tends to be a bold-flavored honey with a strong peppermint taste and odor which makes it less desirable than other honeys. It may be used in baked goods, sauces, dressings.

Drippings from the Extractor

by Dave Stocks

After editing 42 newsletters and an equal number of Drippings from the Extractor columns Dave is taking a well-deserved vacation this month. Dave's column will return next month

Calendar of Events

Meetings

Monday August 1, 2016
Santa Clara Valley Beekeepers Guild
6:15 pm
http://beeguild.org/
Dwell Christian Church San Jose
1292 Minnesota Ave San Jose CA 95125

Tuesday August 2, 2016
Gilroy Beekeepers Association
7:00 pm
Old City Hall, 7400 Monterey Rd.
Gilroy, Ca
http://www.gilroybees.com

Wednesday August 3, 2016
Santa Cruz Beekeepers Guild
6:30 pm
El Rio Mobile Home Park, 2120 N. Pacific Ave.
Santa Cruz, CA
http://santacruzbees.com

Thursday August 4, 2016
Beekeepers Guild of San Mateo
7:00 pm
Trinity Presbyterian Church
1106 Alameda de Pulgas
San Carlos, CA
http://www.sanmateobeeguild.org/

Saturday August 6, 2016
Monterey Bay Beekeepers
8:00 am
Black Bear Diner

2450 N. Fremont Street,
Monterey CA 93940
http://www.montereybaybeekeepers.org/

Classes and Conferences

2016 WESTERN APICULTURAL SOCIETY OF NORTH AMERICA ANNUAL CONFERENCE
DATES: OCTOBER 13 - 15, 2016 (Bee Buzz Social evening of the 12th)
PLACE: ALA MOANA HOTEL, WAIKIKI BEACH, HONOLULU, HAWAII
WEBSITE: http://WWW.WESTERNAPICULTURALSOCIETY.ORG

November 15-17: California State Beekeepers Association annual conference, San Diego, CA
http://www.californiastatebeekeepers.com/events.html