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May 2016 LCBA Newsletter

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Questions? Suggestions? Resources you'd like to share, stories you'd like to tell?

Please contact LCBA Secretary Susanne Weil: susanne.beekeeper@gmail.com or call 360 880 8130

UPCOMING EVENTS:

May 7 – closing date for the Pacific Northwest Survey of Bee Health & Beekeeping Practices!

Have you filled yours out? Dr. Dewey Caron will speak at LCBA's August 2016 meeting & bring data showing where we fit in the regional (and national) picture, so please help by participating! Click on this link:

www.pnwhoneybeesurvey.com/ and click on "Surveys," top of page.

The electronic survey should take no more than 5-10 minutes to complete. There will be paper copies available at LCBA's April meeting. To see last year's report, visit:

www.pnwhoneybeesurvey.com/annual-surveys .



Above left, Paul Stamets, CEO of Fungi Perfecti; right, Blake Westman, Fungi Perfecti's Production Manager, will be LCBA's May 12 speaker.

May 12: LCBA Monthly Meeting ~ Mushrooms & Bee Health

When: 6 – 8:45 p.m.: Social Time, 6 to 6:30 p.m.; 6:30-7:30, presentation; 7:30, break; 7:45-8:45 business meeting & Beekeeping Q&A.

Where: 103 Washington Hall, Centralia College, 701 W. Walnut St., Centralia WA

Topic: *Mycological approaches to increase longevity, reduce mite and viral burden, and improve immunity of honey bees.* **Speaker, Blake Westman**, Production Manager at Fungi Perfecti & one of Paul Stamet's staff involved with WSU's work on mushrooms and honey bee health.

Also: Honey Supering: LCBA mentor Steve Howard will share some tips; then, "beekeeping Q&A" & short business meeting. Please come on down & bring your questions!

May 14: LCBA Workshop: Hive Inspection of New Bee Colonies

When: Saturday, May 14, 1 - 3 pm, *Weather Permitting*; Rain Date, Sat May 21, Time TBA

Where: At an LCBA Mentor's apiary in Adna – to RSVP for Directions, please email susanne.beekeeper@gmail.com or call 360 880 8130.

What: Hive inspection techniques & tips for beekeepers with new colonies from packages & nucs. In small groups led by mentors, we'll get hands-on pulling frames, discussing what to look for to know if your colony is healthy & your queen is laying, how to deal with cross-combing, when to add hive boxes, & using/evaluating sticky boards for mite load assessment. Possibly we'll look at how to do a split. Discussion over refreshments to follow.

Bring: Bee suit, gloves, hive tool, & your questions. LCBA will provide refreshments.



Above left, LCBA Mentor Rick Battin leading a May 2015 hive inspection workshop; right, "[Bee Approaching Camas Flower](#)," by victorberthelsdorf via Wikimedia Commons; license, [CC BY-SA 4.0](#)

May 21-22: Master Gardeners' Annual Plant Sale

When: Saturday, May 21, 9 a.m. to 4 p.m.; Sunday, May 22, 10 a.m. to 3 p.m.

Where: Southwest Washington Fairgrounds, Exposition Hall

What: Would you like to Plant For Bees this year? Bees will need forage toward mid-late summer – here is an opportunity to get affordable plants while supporting another local volunteer group. Questions? Please call the Lewis County Extension office at 360 740 1216 or email art.fuller@lewiscountywa.gov .



Above, [Honey in comb \("Honigwabe"\)](#) by [Waugenberg –Own Work](#). Licensed under [CC BY-SA 3.0](#) via [Wikimedia Commons](#).

June 9: LCBA Monthly Meeting: Honey Judging Criteria; Adulterated Honey & How to Avoid It; Tales from the International Honey Laundering Trade

When: 6 – 8:45 p.m.: Social Time, 6 to 6:30 p.m.; 6:30-7:30, presentation; 7:30, break; 7:45-8:45 business meeting & Beekeeping Q&A.

Where: 103 Washington Hall, Centralia College, 701 W. Walnut St., Centralia WA

Topic: Honey season is coming, & this meeting will approach it from a couple of different angles. Education Coordinator Peter Glover will explain how LCBA has adapted the Eastern Apiculture Association's honey judging criteria and give tips on how to prepare honey for entry in this August's Southwest Washington Fair. Journeyman candidate Terrie Phillips will explain how honey becomes adulterated and things you can do to avoid this, along with tales of the international honey laundering trade.



Above left, ["A photo of crystallized honey - you can see fractal structure,"](#) by [Stevo-88](#), license, public domain via [Wikimedia Commons](#); right, ["Filtering of honey,"](#) by [Luc Viatour / www.Lucnix.be](#), license, [CC BY-SA 3.0](#).



Above right, Lintott Alexander Park in Chehalis (photo, City of Chehalis Parks & Recreation); right, LCBA members at our 2015 Summer Potluck.

Saturday, July 9: Mark Your Calendars for LCBA's 8th Annual Summer Potluck!

Come enjoy good food, good fellowship, & talk bees. Honey recipes always welcome!

Where: Lintott Alexander Park, Shelter #1; 1101 Riverside Drive, Chehalis WA

When: 4 to 8 p.m.

Facilities: We'll have 10 large picnic tables & benches (altogether, the facility can accommodate 100), wood-burning stove, electrical outlets, outdoor faucet, garbage cans/liners.

Please bring: A dish to share, plate, cutlery – and family! LCBA will provide water, pop, napkins. Park management requests no alcohol at this event.

Drawing for 2017 Youth Scholarship Program: Fun items will be available for those who buy \$1 drawing tickets. We'd like to branch out to middle schools next year & fund more young people to get started with bees. If you'd like to help, please consider bringing an item to donate.

More Upcoming Events:

August 11 Monthly Meeting: Lewis County & Honey Bee Health

Dr. Dewey Caron will share results from the Pacific Northwest Survey of Honey Bee Health & BeeInformed Partnership's national study – we'll hear where Lewis County fits in the regional & national picture, plus updates on how we can help our bees to thrive.

Southwest Washington Fair: August 16-21

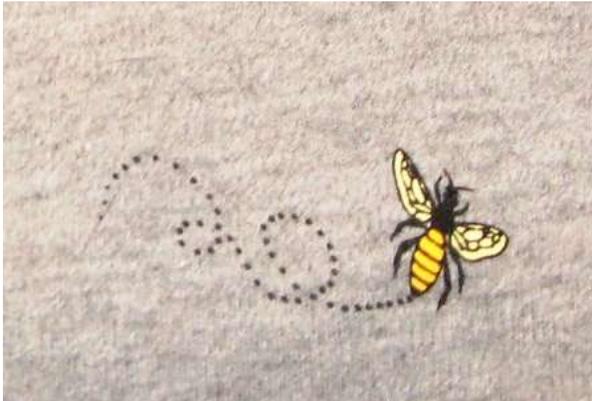
LCBA will have our exhibit in the Floral Building again – observation hive, honey contests, display items, & our great volunteers! More details will be available at our June 9 meeting.

Notes from LCBA's April 14 Monthly Meeting

LCBA President Kevin Reichert welcomed our standing-room-only audience. Before kicking off our regular program, Kevin called our attention to several news items. First, sign-up sheets were available for volunteers to staff our exhibit at the Spring Youth Fair, April 30-May 1, and for members who wanted to help out on (not lead) swarm and colony removals. Kevin also noted that the Olympia Beekeepers' Association had placed two demonstration hives, complete with bees, at the Governor's Mansion in Olympia as an educational display. OBA will manage these hives (see "Bees in the News," later this newsletter).

Package/nuc bee delivery/pickup update: Kevin also gave an update on Package/Nuc Bee Orders: April 21 was expected to be the delivery/pickup date, though there was still a chance that it could change given the unusual weather conditions in California. We will email details to all who ordered bees and update immediately via email if anything changes. However, members must plan to pick up their bees on pickup day; if they can't come themselves, they must send someone to get the bees. LCBA mentors will be on hand with a pop-up tent, table, hiving handouts, & marshmallows for most of the day: Harold will work with people who arrive before LCBA volunteers arrive and after they leave. Harold noted that the shop would be open for woodenware. They have 400 packages and nucs to deliver!

LCBA Apparel: Treasurer Rick Battin had a quick update on how members could buy LCBA shirts and other apparel. Rick displayed the apparel and noted prices: \$17 for small through extra large; \$19 for 2XL; the shirt has the LCBA on the front and the full logo on the back). We have LCBA baseball caps with the logo sewn on the front for \$12. Rick asks that members who want to buy a shirt or cap email him up to 24 hours before a monthly meeting (rick.battin@gmail.com); then Rick can bring only those shirts and caps ordered rather than the entire box.



Above left, the "LCBA Bee" from our iron-on transfer set; right, the LCBA iron-on patch on a vest. To see photos of our T-shirts & hats, check our April 2016 Newsletter.

Iron on patches and transfers to customize your own apparel: Iron-on patches are \$4; iron-on transfers cost \$9 for a 3 piece set that includes one large LCBA logo, one small LCBA logo, and one little flying bee. For iron-on transfers, members must take a shirt (or buy a shirt) at Alderson's/Awards West. The process is that members pay Rick for the transfers at a meeting; he then contacts Alderson's/Awards West with names of members who order. Members

then can buy a shirt at Alderson's or bring their own (you save a dollar buying at Alderson's). We don't put this on the website for several reasons: we are not equipped to sell anything via the website without upgrading to a more expensive packages, and the state can charge sales taxes on items advertised on the site. Casual sales, like t-shirts at our meetings, are ok, but a website sale is a different matter.

April Meeting Topic #1: Tips on Hiving Package Bees

For a detailed, step by step hiving package bees guide, visit LCBA's website:
http://lewiscountybeekeepers.org/mentorsworkshopsclasses/hiving_package_bees

LCBA board members brought in a demonstration hive & package setup for President Kevin to use in a "dry demo" (no bees in Washington Hall 103!).

Timing: Though you want to get bees into their hives as soon as you can after bringing them home, it's best not to hive them at night – too cold – or if it is raining, as the rain will chill them.

Making your hive setup attractive to your new bees: First of all, Kevin noted that to encourage bees to take to their new hive box home, before hiving, make your hive smell like a home for bees: take out each frame and spray it lightly with 1:1 sugar water (infusing Honey-b-Healthy helps give that lemongrass essential oil odor). If you have beeswax, rub some on. You can also lightly spray bees through their package screen before hiving (they will groom each other & consume the syrup that way) - but don't soak them so they don't get chilled. Kevin explained where the queen cage is inserted, along the slot adjacent to the syrup can. Kevin demonstrated that when you pull that syrup can out so that you can access that queen cage and pull that out, be sure to have a piece of wood or another sturdy item available to cover that hole in the package so your bees don't fly out!



Above left, spraying sugar syrup on bees in package to calm them pre-hiving; right, leaving out frames to make space for inserting the package.

Next step: prepare the queen cage for workers to release the queen: if there is a fondant plug in the queen cage, you don't have to take it out – the bees will eat through to release her, though Kevin recommends taking that plug out and using a marshmallow (see below). If there is

a cork plug, you will need to remove it – very gently so that you don’t shove it down on top of the queen; once the cork is out, you can replace it with a mini marshmallow – the workers will eat through it to release the queen. Tim Giese, a second generation beekeeper and member of LCBA since its inception, introduced himself to new members: Tim noted that a good way to remove that cork is to take a small wood screw and gently screw it into cork and pull it out. Then, when you get the cork out, put your finger over the hole and put in the marshmallow. Tim pointed out that since the bees have traveled with this caged queen for a couple of days, they have probably accepted her already, but to be on the safe side, go back in 24 hours and be sure that she is released. Kevin added that if the queen gets out of her cage, don’t freak out: just be sure that she gets in / stays in the box. Gottfried Fritz added that it’s a good idea to put the queen cage in with the hole facing up, not down, so that marshmallow bits don’t fall in on the queen as the bees work to release her.

Next, hang the queen cage in your hive box by taking the flexible metal strip and hooking it over the top of one of the central frames. Be sure that the screen is facing away from the frame – otherwise, the bees won’t be able to get to the queen to feed her. Putting a rubber band around your frame to hold the queen cage onto the frame is a good idea. You can remove it later, or the bees will chew through it, which doesn’t harm them. One thing to bee-ware: don’t bang that cage around and shake up the queen!



Above left, using a staple gun to affix the queen cage to a frame; right, the “tap & dump” method.

Next: get your package bees into your hive box. There are multiple ways to do this. You can simply take out enough frames to accommodate the package box and set it into the hive box. Another way: you can put the package in an empty box beneath the box with frames: bees like to move up, so they will go up to the queen. (If you are using medium hive boxes, you can lay package on its side.) These methods are referred to as the “kinder, gentler” way to welcome bees to their new home. Less kind & gentle, but quicker, methods: cut the screen out of the package and dump the bees in with “one quick bang,” or can shake them - though that will tear off some feet of bees clinging to the wire mesh. If you use the extra box method to house the package, be sure to remove it and the package when you check that the queen has been released to avoid having bees draw comb in the empty box (or package). Gottfried commented that one good feature of shaking is that the disorients the bees and thus gets them to want to hang onto the frames. Rick noted that he gives a gentle tap and then leaves the box alone.

Feed your new bees! Once your queen and bees are in the box, be sure to feed them – this will help them begin to draw comb. Think about your feeding options and choose one ahead of time; have it ready to go. (For pros and cons of different feeding methods, visit: http://lewiscountybeekeepers.org/mentorsworkshopsclasses/feeding_bees. LCBA Education Coordinator Peter Glover noted: if you are using a bucket feeder, don't put the queen cage in the middle of frame to avoid having syrup drip onto the queen cage. Put the queen off center and a little back from center. One member asked where an in-frame (division board) would go inside the hive – Kevin answered that it would be set in place of frames one and two.

Next steps: Kevin noted that as the next couple of weeks go on, remember the “7 of 10” rule: to discourage swarming, add a new hive box when the bees have drawn comb on 7 of 10 frames. However, don't add that box too early, or bees will build comb chimney-style up the center of the boxes, avoiding the outer frames and not using their space efficiently. The “checkerboarding” technique – swapping a frame of drawn comb at, say, frame position 3 or 4 with a blank frame in position 1 or 2 helps encourage them to build all frames in a box. You can also checkerboard by moving frames between upper and lower boxes. Tim Giese noted that that technique also helps avoid cross-combing, but cautioned newbies to be careful to avoid chilling the brood - don't take too long in doing inspections, and don't hang brood frames outside the hive. If you move a full frame over and put an empty one between two full ones, they will then usually build on the empty frame.

Walt Wilson asked how close together one should put your bee colonies. There's a range of opinion about this: some are concerned about returning foragers drifting from one colony to another; others are concerned about robbing. Putting an entrance reducer on helps discourage robbing by enabling guard bees to defend a smaller entrance.

Hiving nucs is a simpler process – just put the frames into the center of a deep and then surround them with empty frames on the sides.



Above, sugar dusting newly hived bees to knock down phoretic mites.

Sugar dusting for mite monitoring: Sugar dusting your frames the first time you hive them is a good knock down of Varroa mites. Be aware that your bees may have phoretic “hitchhiker” mites, but you can take advantage of the broodless window that a package colony presents – there is no drawn comb yet and the queen has not begun to lay, so there is nowhere for mites to lay eggs.. Also, once your bees are hived and settled, before the brood develops, you can

use the oxalic acid fume vaporizer if a sticky board shows that you have mites in the colony (*see our April 2016 newsletter*).

When is it time to super? Kevin answered that you can super when the colony has two full deeps' worth of brood and food for the bees. Tim Giese suggested that even for established hives, it's good to wait now, while there is lots of pollen to aid bees' building brood.

For overwintered bees: if you haven't already, you may want to switch a mostly empty bottom box with a more full top box, since bees tend to build upward in hive boxes. Steve Howard commented that for overwintered bees, just hefting a hive box and noting its weight can tell you the condition of the colony. If it is heavy, there is still going to be a good deal of food left. Also, Dan Maughan noted that he numbers frames so that later, he will know how old each frame is. Dan pointed out that if the wax is old, the bees will chew it off and pitch it out. It is good to give new colonies some drawn comb if you can. If the edges of the comb are a bit chewed or crumbled, that is still ok: the bees will build from it, and it is a short cut for them.

Topic #2: "Why Did My Bees Die Over the Winter?"

Susanne led a discussion of why members thought their bees had died this past winter. Most present had lost bees, though most also had surviving colonies. One major cause of bee mortality reported by members: some colonies went into the winter relatively weak, and we discussed the value of combining those weak hives to ensure that there is a large enough cluster to generate sufficient warmth through the cold months. For many, Varroa mites, even treated, had persisted to weaken bees & colonies.

Another key problem continued to be moisture, which chills bees during the winter, as well as promoting mold and fungus within the hive. Kevin cautioned that when we use the moisture control boxes, it's important to get into the boxes periodically as weather permits to check on whether the wood chips and burlap have become sodden as moisture vents upward. Others had colonies so hammered by yellowjackets and their carnivorous kin in the late summer that the bees were too decimated to survive. One member reported that a raccoons had knocked over their hives and eaten bees, brood, and honey: the Shotgun Cure was prescribed. . . .



Above left, " , " *BeeInformed.org*; right, [*dead cluster in hive after winter*](#) – photo by Ann Harman, *Bee Culture*, Mar 16 2016

Though starvation was reported as an issue by some, more often, our beekeepers reported being surprised to find, come late winter/early spring, what had been a large, thriving colony last

fall either dead or dying. Typically, they reported a small cluster of bees and a queen, either barely alive or already dead, with some others dead on the bottom board, yet many honey frames untouched – so the bees had not starved. This condition has been reported as a growing problem by the Bee Informed Partnership: Parasitic Mite Syndrome (to see their slideshow & discussion, visit: <https://beeinformed.org/2016/03/08/why-did-my-honey-bees-die/>).

Meghan Milbraith of Michigan State U. Extension, writing for the BeeInformed blog, describes the symptoms like this:

“Characteristics of the common early winter death in northern states:

1. The colony was big and looked healthy in the fall
2. A lot of honey is left in the top supers
3. The cluster is now small, maybe the size of a softball
4. There are hardly any bees on the bottom board
5. Near or just below the cluster is a patch of spotty brood – some fully capped, and some with bees dying on emergence (heads facing out, tongues sticking out).
6. If you look closely in the cells around the brood, you will see white crystals stuck to the cell walls, looking like someone sprinkled coarse salt in the brood nest.”

Kevin noted that he had a number of hives who fit the profile and exhibited the white crystals in the BeeInformed slideshow; he noted that he had not treated for mites. Others noted having observed these crystals, too. These white crystals that adhere to cell walls are the key: “the crystalized pee of varroa. Varroa mites defecate in the cells, and the resulting guanidine crystals are left behind, and visible to the naked eye,” according to Milbraith on BeeInformed’s blog.



Above left, photo by Meghan Milbraith: she comments, “Note the bee in the upper left is fully formed, and died on emergence. You can often see frozen/melted larvae along with dead pupae. Many beekeepers instantly suspect AFB, but AFB infected colonies usually will not be large and have produced a lot of honey going into the winter.”

Above right, “Cells on the left side of this photo contain small crystals of guanidine acid, indicating varroa defecation. Notice the dry, irregular shape, and that they appear stuck to the walls on the cells. Some cells on the right side of this photo contain crystallized sugar. Note the wet/liquid appearance, and that it is largely in the bottom of the cell” (Meghan Milbraith, BeeInformed.org)

Susanne noted that she had used Mite-Away Quick Strips (MAQS) on seven colonies that had heavy mite loads: while MAQS seemed to help four that thrived and are now strong, three

died out: they had tiny living clusters when inspected during the January warm spell, but had died by the end of February. The characteristic white crystals were present, though also, in two of these colonies, the queens were tiny: had the MAQs killed those two queens, a risk with this chemical? Did the bees raise a new queen – who could not, in late fall, be mated? That could also explain the small population of bees that, finally, could not sustain warmth in the cluster.

In any case, Varroa mites, unchecked, can wipe out a colony. Many present felt that mites had played a role in their winter losses. Several noted that they are buying or making oxalic acid fume vaporizers to try to control mites this coming season.

April 14 LCBA Business Meeting Notes

Treasurer's Report: Treasurer Rick Battin reported that as of this meeting, LCBA had \$6,417.12 and \$1,295.08: this was updated after getting the last gear for our two scholarship students. We now have 208 registered individuals as members (this includes family members, not 208 individual dues payments).

Insurance Update: President Kevin Reichert reported that based on the unanimous show of hands support at our March meeting, the board moved ahead and voted 6:1 to purchase insurance after looking at three bids ranging from \$612 to \$1000. Kevin, Mentorship Coordinator Martin Stenzig, and Secretary Susanne Weil met with Kevin's attorney and concluded that the best route to cover the association was to get the \$612 general liability policy offered by Farmers' Insurance in Centralia, who has bound the association; we should have the policy in hand by the end of April. The policy will cover events (such as the Southwest Washington Fair, Youth Fair, and our summer and holiday potlucks, workshops, and members when acting as representatives of the association (*e.g.*, a mentor visiting a mentee's apiary). The \$612 a year covers everything: there are no additional charges for specific event coverage. The board opted not to purchase Directors' and Officers' insurance after consulting with Kevin's attorney: we are waiting for the revised hold harmless agreement with language that will fill in holes in the coverage, primarily related to events involving children. Signing the hold harmless agreement will still be required to participate in events like our hands-on workshops, unless the form has already been signed for that calendar year; forms will be available at the workshops. Kevin noted that as we go into the summer, we will likely have a discussion about a possible raise in LCBA dues (a first time ever dues rise) to help cover insurance for 2017.

Club Apiary: Now that LCBA has insurance, the association can consider moving ahead with a club apiary, as was discussed at a meeting last fall. Kevin noted that a board committee, made up by Vice President Bob Harris, Martin Stenzig, and Rick Battin, has been exploring possible locations, as well as what agreements would need to be secured with property owners. The club is not going to purchase property, as we cannot afford it.

Discussion: Phil Wilson asked how many hives we are considering, and Walt Wilson wondered what size of location we are looking for, noting that parking will be important. Rick noted that this was one of the original club goals, and that we are looking at partnering with a farm property that wants pollination – we would manage bees for pollination for them, and we would put bees there for free in exchange for access for workshops and possibly other educational events. Since the apiary would support our workshops, we would look to have about five to six colonies, possibly from swarms and carve-outs to minimize expense, though we could consider one or two packages. Terrie Phillips noted that we would need a central location. Also,

we would need to have people signed up to care for the bees. Kevin noted that would be some expense for woodenware, etc.; Phil suggested that we might be able to get some donated woodenware. Chris Weedon noted that we can talk with Olympia Beekeepers about how they set up their club apiary.

One member noted that the old way the club did mentoring, one on one, worked well. Susanne noted that we still have our mentor program, though the workshops were developed to prevent having a relatively small number of mentors burned out by making regular visits to many newbees' apiaries; the workshops were intended to help new beekeepers develop skills that they could take home to their own apiaries. Also, last year, we had only two apiaries for all of our workshops: when those colonies are being taken apart by a large group on a regular basis, that is hard on those colonies and not fair to the hosts. At this point, we are waiting for Bob Harris's bees to be brought back from California, where a member borrowed them to do commercial pollination, and no board member is presently able to host a workshop, whether because of lack of sufficient colonies, colonies housed on other people's property, or lack of parking. Susanne asked whether any members were willing to host a workshop: no one volunteered.

Kevin noted that the club would not move to establish an apiary this year: this discussion is to see what the membership is willing to support, and if members approve, the committee will go ahead to investigate details like possible locations, specific policies for access, and means to obtain affordable bees and woodenware. Kevin asked for a show of hands of those in favor of the club pursuing an apiary: most raised their hands in favor, with two opposed. Kevin encouraged those with ideas and comments to contact Rick, Martin, or Bob (for contact information, visit our website homepage, www.lewiscountybeekeepers.org, and click on Board of Directors).

Education Program Update: Education Coordinator Peter Glover reported that so far, 29 of our apprentice beekeeping class students have completed the course tests. The progress report forms have been sent to "WSBA Central," and we hope to have diplomas to distribute at our May 12 meeting. Other students have been asked to complete their tests by April 30. The Journeyman class is about to finish their tests, with one more chapter to go: after that, they will have to complete their WSBA service points, finish their "year of beekeeping" journals, and have their apiaries inspected. Peter and Susanne, as the registered WSBA Journeyman instructors, will conduct the hive inspections.

Youth Scholarship Update: Susanne reported that Josiah and Sam are finishing up their tests and very excited about getting their bees. Josiah has been out on hive inspections with his mentor Gottfried, and Sam was coming to inspect bees with Susanne the weekend following this meeting. Both youth scholars are planning to volunteer at the Spring Youth Fair.

Upcoming Events: Susanne reminded members about the Youth Fair signups. Our May 12 meeting will feature one of Paul Stamets' researchers from Fungi Perfecti, Blake Westman, to tell us about the WSU-Fungi Perfecti research project on how mushrooms can aid honey bee health. Susanne also noted that April 30 is the closing date for the Bee Informed national survey of honey bee health; May 7 is the closing date for Dr. Dewey Caron's Pacific Northwest Survey (cards with the URL for the latter were available for pickup). Dr. Caron will be our August 11 speaker: he will break out Lewis County data and examine it in context of our region, as well as where we fit in the national picture, so please fill out your survey! (We had paper copies available for those who don't like the online environment.)



Above left, LCBA mentor Gottfried Fritz with a family at the observation hive; right, Gordon Bellevue with a small smarm of children seeking the queen.

LCBA AT THE SPRING YOUTH FAIR ~ April 30 to May 1

LCBA participated in Lewis County's Spring Youth Fair for the third time. Though this year's fair wasn't quite as busy as those in years past, LCBA's exhibit drew a steady stream of children and families drawn to watch the bees in our observation hive. This time we used Bob Harris's two-frame hive (a wee bit more stable than the big three-frame hive, which Kevin is doing repairs on in preparation for this summer's Southwest Washington Fair). Our volunteers had fun showing visitors of all ages how to find the queen, tell the difference between capped brood, capped honey, and pollen/bee bread, & watch honey bee behaviors. We also made use of Dan Maughan's "teaching photo hive" to explain the bee life cycle, & debuted our "honey tasting challenge - can you guess which of 5 tasters is the carrot blossom honey?"

Many thanks to our LCBA volunteers - Dan Maughan for loaning his hive gear (& the carrot blossom honey!), Gottfried Fritz for bringing in frames of comb of all stages for visitors to see how hives build, Bob Harris for loaning the observation hive, Susanne Weil & Peter Glover for loaning the bees in the hive, and our volunteers - in addition to Dan, Gottfried, and Susanne, Gordon Bellevue, Pamela D., Tracy Chilleli & Bill Barr, Mel Grigorich, & especially our Youth Scholars Josiah & dad Joel, and Sam & dad Brian – brand new beekeepers sharing their newfound enthusiasm to help others get excited about honey bees! For more photos, visit Lewis County Beekeepers Association on Facebook.



Above left, LCBA 2016 Youth Scholar Josiah Cowin with mentor Gottfried and a visitor to the observation hive; middle, Youth Scholar Sam displays some fresh comb that he & dad Brian cut from one of their hives' cross-combs; right, Susanne & Peter's bees in Bob's observation hive.

BEES IN THE NEWS

Thanks to Fran Bach, Steve Norton, Norm Switzler, Phil Wilson, & the good folks at Bee Culture & American Bee Journal

VARROA MITES IN THE NEWS:

“First multi-year study of honey bee parasites and disease reveals troubling trends: Varroa mite infestations more severe than previously thought, with links to spread of viral diseases,” *Science News*, 26 Apr 2016

Entomologists at the USDA and University of Maryland have finished a five-year analysis of bee parasites and pathogens: the results paint a good news/bad news picture. First the bad news: Varroa mites are “far more abundant” than scientists had thought, “and the Chronic Bee Paralysis Virus has skyrocketed in prevalence since it was first detected by the survey in 2010.” The researchers attribute the spike in viruses to the mites. This study was the first to confirm the mite/virus link from field studies rather than just lab studies. "

“We know that varroa acts as a vector for viruses. The mites are basically dirty hypodermic needles," one of the other researchers said. "The main diet for the mites is blood from the developing bee larva. When the bee emerges, the mites move on to the nearest larval cell, bringing viruses with them. Varroa can also spread viruses between colonies. When a bee feeds on a flower, mites can jump from one bee to another and infect a whole new colony."

The study confirmed population trends in both mites and Nosema that beekeepers have observed: “varroa infestations peak[] in late summer or early fall and nosema peak[s] in late winter.” Over 50% of beekeepers in the study had “high levels of varroa infestation at the beginning of winter.” This was true even for " well-managed colonies cared for by beekeepers who have taken steps to control the mites," according to co-author Dennis vanEngelsdorp.



Above, phoretic mites on a honey bee (photo by BeeInformed)

Nosema, too, is on the rise. Some potentially surprising news: migratory beekeepers “reported lower levels of varroa compared with stationary beekeepers,” but “the reverse was true for nosema.” However, Nosema “appears to have a more nuanced relationship with honey bee viruses” and “strongly correlates to the prevalence of Lake Sinai Virus 2, first identified in 2013, and also raises the risk for Israeli Acute Paralysis Virus.

Researchers found no correlation between either mites or Nosema and Chronic Bee Paralysis Virus, “which causes loss of motor control and can kill individual bees within days. This virus was first detected by the survey in the U.S. in 2010. At that time, less than 1 percent of all samples submitted for study tested positive for the virus. Since then, the virus' prevalence roughly doubled every year, reaching 16 percent in 2014.”

Were you waiting for the good news? Here are two items: first, van Engelsdorp reported that the scientists will next work on " a similar baseline assessment for the effects of pesticides." Second, three dangerous potential invasive species haven't penetrated the U.S. so far: “the parasitic tropilaelaps mite, the Asian honey bee *Apis cerana* and slow bee paralysis virus.”

To read more, visit: <https://www.sciencedaily.com/releases/2016/04/160426162601.htm>

“Parasitic Mites That Transmit A Honey Bee-Infecting Virus May Benefit From Spreading The Pathogen, A Study Shows. A Definite Parasite-Pathogen Partnership. Destroy Honey Bee Immunity, Increase Varroa Reproduction”: Bee Culture’s Catch the Buzz, 15 Apr 2016

A new study has discovered what mites get out of their role as vectors for viruses to enter honey bees: “mites show more reproductive successes when parasitizing honey bees with active DWV [Deformed Wing Virus] infections.” The mites don't simply pass along the virus “mechanically” when they infest a larva: it appears that the “DWV weakens the bee immune system by affecting proteins . . . of immune-response genes. The researchers hypothesized that the bees' weakened immune systems might make them more tolerant of mite parasitization.” Researchers built on this earlier finding and discovered that the DWV-infected bees showed less ability to coat threads in melanin, which is how bees normally react to pathogens. Further, the proportion of mites who reproduced “increased in those infected with more copies of DWV.”

To read more, visit: http://www.bee-culture.com/catch-buzz-2/?utm_source=Catch+The+Buzz&utm_campaign=3115554144-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-3115554144-256261065

NEONICOTINOIDS IN THE NEWS:

“Ortho Brand Announces Plan to Eliminate Neonics from All its Outdoor Products; Partnership with the Pollinator Stewardship Council to Focus on Consumer Education”: Catch the Buzz, 26 Apr 2016

Ortho will “begin to transition away from the use of neonicotinoid-based pesticides for outdoor use. They plan to end all “use of neonic active ingredients Imidacloprid, Clothianidin and Dinotefuran by 2017.” Meanwhile, Ortho has added “non-neonic based garden solutions” for bee-friendly gardeners.

Together with parent company, ScottsMiracle-Gro, Ortho will work with the Pollinator Stewardship Council to “develop homeowner education related to the responsible use of pesticides where pollinators can be found. That effort will use web, social media and other platforms to reach consumers. In January, ScottsMiracle-Gro also announced the Pollinator Promise, a program that will result in the creation of 75 pollinator gardens” in U.S. cities in 2016, part of Ortho’s “GRO1000 Initiative, which has resulted in the creation of 790 community

gardens.” The partnership will also focus on more accurate labeling to let consumers know they are buying neonic-free products.

To read more, visit: http://www.beeculture.com/catch-buzz-ortho-brand-announces-plan-eliminate-neonics-outdoor-products-partnership-pollinator-stewardship-council-focus-consumer-education/?utm_source=Catch+The+Buzz&utm_campaign=d9add9d843-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-d9add9d843-256261065 Also see: <http://www.seattletimes.com/nation-world/apnewsbreak-ortho-to-drop-chemicals-linked-to-bee-declines/>

**“Banned EU Pesticide Affects Learning of Honey Bees But Not Bumblebees. First-of-its-Kind Research by The University of Sussex Has Implications For Insecticide Regulation”:
Catch the Buzz, 17 Apr 2016**

The first study to examine how honey bees and bumblebees react to “field-realistic” doses of the neonicotinoid clothianidin has shown that the pesticide “significantly affects the learning of honey bees but has no effect on bumblebees.” After 11-12 day exposure to clothianidin, the “proboscis extension reflex conditioning assay, which tests how bees learn to associate an odor with a sugar reward,” showed that honey bees capacity to learn that association dropped, though the bumblebees showed no difference. The scientists also studied how *Nosema ceranae* played into memory: they found that “infection by the parasite slightly impaired learning in honey bees; however the parasite did not infect bumblebees.”

To read more, visit: http://www.beeculture.com/catch-buzz-banned-eu-pesticide-affects-learning-honey-bees-not-bumblebees-first-kind-research-university-sussex-implications-insecticide-regulation/?utm_source=Catch+The+Buzz&utm_campaign=6a0562533b-Catch_The_Buzz_4_29_2015&utm_medium=email&utm_term=0_0272f190ab-6a0562533b-256261065

**“Bees 'Dumb Down' After Ingesting Tiny Doses of the Pesticide Chlorpyrifos”:
Items for Beekeepers, April 2016**

Chlorpyrifos “severely” damages honey bees’ capability to learn and remember, even “after ingesting very small doses” that are “considered ‘safe’.” The New Zealand study “collected bees from 51 hives across 17 locations in . . . Southern New Zealand and measured their chlorpyrifos levels. They detected low levels of pesticide in bees at three of the 17 sites and in six of the 51 hives they examined”: the pesticide is well known for its pervasive quality.

Scientists reported that “the dosed bees were less likely to respond specifically to an odor that was previously rewarded. As honey bees rely on such memory mechanisms to target flowers, chlorpyrifos exposure may be stunting their effectiveness as nectar foragers and pollinators.” Further, they “identified the threshold dose for sub-lethal effects of chlorpyrifos on odor-learning and recall as 50 picograms of chlorpyrifos ingested per bee,” which is “thousands of times lower than the lethal dose of pure chlorpyrifos, which is around 100 billionths of a gram. Also, it is in the low range of the levels we measured in bees in the field.”

To read more, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=49a8fd716b&e=e9ff21e0bb>



Above, “Pesticides affect bees’ ability to locate flowers drink nectar” (photo, University of Guelph)

“Pesticides affect bees’ ability to locate flowers, drink nectar”: Science News, 14 Mar 2016

When bumblebees contact “even low levels of pesticides . . . they have trouble acquiring the pollination skills necessary to retrieve nectar from some wildflowers” and take “longer to collect pollen and sought pollen from different flowers than control bees.”

Although the bumbles exposed to the neonicotinoids gathered more pollen than did control bees not exposed to the pesticides, “researchers believe the control group bees split their time more evenly between collecting pollen and learning how to retrieve pollen from more complex flower shapes.” This suggests that the bumblebees may not be able to adapt to find another pollen source when the first runs out, thus leaving a habitat deprived of pollination.

To read more, visit: http://www.upi.com/Science_News/2016/03/14/Pesticides-affect-bees-ability-to-locate-flowers-drink-nectar/3941457986075/ For more details on the flowers and neonics in the study, also see: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=8f111f2118&e=e9ff21e0b>

CLIMATE CHANGE

“Rising CO2 Levels Reduce Protein in Crucial Pollen Source for Bees”: Catch the Buzz, 13 Apr 2016

As the levels of carbon dioxide in the atmosphere rises, protein from goldenrod, a “key late-season food source” for bees, is declining. Although scientists had already looked into how rising CO2 levels decrease the nutritional value of human foods like wheat and rice, this was the first study to measure its impact on bees’ food supply. Goldenrod “offers bees some of the last available pollen before winter. Bees that overwinter must store substantial amounts of pollen to rear their winter young. Declines in pollen protein could potentially threaten bee health and survival and weaken bees’ ability to overwinter on a continental scale,” according to Jeff Pettis, study co-author. “A poor diet sets bees up for failure,” he said. “Previous research shows bees have shorter lifespans when fed lower quality pollen.” Pettis cautioned, though, that “this study only assessed pollen protein levels and did not look at the impact of protein reductions on bee health and populations.”

Though more CO2 enables plants to grow “faster and bigger . . . this growth spurt can dilute plants’ total protein, rather than concentrating it in the grain, resulting in a less nutritious food source.”

To read more, visit: http://www.beeeculture.com/catch-buzz-rising-co2-levels-reduce-protein-crucial-pollen-source-bees/?utm_source=Catch+The+Buzz&utm_campaign=8f1a7a4c24-Catch+The+Buzz+4+29+2015&utm_medium=email&utm_term=0_0272f190ab-8f1a7a4c24-256261065

BEE NEWS IN WASHINGTON STATE

“Washington State Legislature Passes Bill to Support a Second Honeybee Research Position at WSU”: Items for Beekeepers, April 2016

“Word was received Monday from Sue Olson in Yakima that efforts by individual beekeepers and associations in Washington State have paid off as the State Legislature secured funding for a second honey bee research position at Washington State University in the 2016 legislative budget. Special thanks go to Senator Judy Warnick for her interest and assistance in getting this through.” --Fran Bach



Above, “Olympia Beekeepers Association member Mark Emrich installs a base for beehive boxes on the front lawn of the governor's mansion in Olympia, WA” (Photo, Rachel la Corte, AP)

“Bee Hives Installed On Lawn Of Washington Governor's Mansion”: Associated Press, 14 Apr 2016

Woodenware to house two honey bee colonies was installed on April 14 at the Governor’s Mansion in Olympia by the Olympia Beekeepers’ Association as part of their ongoing effort to raise public understanding of honey bee health. The bees themselves, two packages, arrived the following Wednesday.

Great work by our friends at Olympia Beekeepers Association, whose volunteers will maintain the hives. To read more, visit: <http://www.opb.org/news/article/bees-washington-jay-inslee-governor/>

GENERAL BEE HEALTH RESEARCH

“Starvation as Babies Makes Bees Stronger as Adults - New insights into colony collapse disorder” American Bee Journal, 31 Mar 2016

A new study has shown that “short-term starvation as larvae actually makes honey bees more resilient to nutritional deprivation as adults,” which “suggests they have an anticipatory

mechanism like solitary organisms do.” The starved larvae, once they reached adulthood, were able to “reduce their metabolic rate, maintain their blood sugar levels, and use other fuels faster than the control bees during starvation. This increased the probability of their survival under a starvation situation.” Researchers emphasized that the results were preliminary and more studies would be forthcoming. To read more, visit: <http://us1.campaign-archive2.com/?u=5fd2b1aa990e63193af2a573d&id=8a366ab8e1&e=e9ff21e0bb>

“Study Finds Larger Colonies of Social Insects Have Weaker Immune Response, Highlights Role of Hygiene”: American Bee Journal, 10 Mar 2016

Honey bees, like ants, are “eusocial,” meaning that they “live in groups.” Research now shows that for eusocial insects, “the more individuals there are in a typical species colony, the weaker the species' immune response. The finding strongly suggests that hygiene behaviors, and not just immune systems, play a key role in keeping eusocial insects healthy.” The finding has common sense value, as living cheek by jowl with many fellow insects would make diseases easier to spread – and yet eusocial insects have thrived despite this threat.

The new study tested the social group theory using a specific immune response in hemolymph in “six eusocial insects, including ant, eusocial bee, eusocial wasp and termite species; and five non-eusocial insects, including non-eusocial bee, non-eusocial wasp and cockroach species.” Researchers “found that eusocial insects generally had a less pronounced immune response than their non-eusocial counterparts. They also found that the larger the colony size associated with a species, the weaker its immune response. For example, honey bees (*Apis mellifera*) form large colonies and exhibit complex group behaviors - and they had a significantly less pronounced encapsulation response than sweat bees (*Halictus ligatus*), which live in much smaller groups. ‘This tells us that the behaviors we see in eusocial species - like grooming each other or bringing antifungal materials into nests or hives - are playing an important role in colony health,’ according to the researchers.

To read more, visit: <http://us1.campaign-archive1.com/?u=5fd2b1aa990e63193af2a573d&id=84a5ea8d8e&e=e9ff21e0bb>

ANNOUNCEMENTS

Bee Splits & Woodenware Available for Sale toward end of April: Kevin Mills, Rochester, 757 376 2821, expects to have 4 or 5 splits that he will sell along with their woodenware (screened bottom board, deep box & frames, migratory cover): \$225 each including the bees.

Western Apicultural Society Newsletters: http://groups.ucanr.org/WAS/WAS_Journal. Click on the line in the paragraph on the right as directed. If you're still getting the old issue, click on "empty cache" in your browser or "refresh" or "reload" under VIEW in your menu bar.

WSBA Newsletter: Pick up your copy online at www.wasba.org: click on "Newsletters."

That's all for now ~ take care, & bee happy! ~~ Susanne Weil, LCBA Secretary
(Susanne.beekeeper@gmail.com; 360 880 8130)