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February 2015 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:

February 11: LCBA Monthly Meeting

When: 6 – 8:45 p.m.: Social Time 6 to 6:30 p.m.

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

- **Beekeeping in Kenya: LCBA members report on their experiences working African bees & teaching beekeeping.** Also: update on the LCBA/KiReeco MOU.
- **Package & Nuc Bee Orders Update; Beekeeping Q&A: Helping Bees Weather This Strange Weather; LCBA 2014 Audit presentation**



*Above left, African bees are master propolizers! We've sent bee samples to WSU's APIS lab for genetic analysis ~ these bees were gentle & we're wondering whether they really are *Apis mellifera scutellata* or the gentler mountain bee, *A.m. monticola*. Right, inspecting the African bees (photos, Susanne W.)*

February 14: Free Film Showing! "Queen of the Sun: What Are The Bees Telling Us?"

When: February 14: 2:30 - 5 p.m.

Where: Centralia Timberland Library,
110 S. Silver St., Centralia WA

Celebrate Valentine's Day by taking your honey to this valentine of a film that celebrates honey bees around the world. Stunning photography & a thoughtful look at the challenges facing bees - from pesticides to habitat loss to disease - as well as a hopeful look at what some are doing to help. Film, 2 hours; Q&A session follows.



February 14: Hive Assembly Workshop #1 (Langstroth Hives), 10 a.m. to 2 p.m., Chehalis.
First priority for work stations goes to LCBA members.

Where: for details & directions, email susanne.beekeeper@gmail.com or call 360 880 8130.

What to bring: woodenware, frames, foundation – and questions! LCBA will provide tools, glue, & screws. If you need woodenware, check the “Beekeeping Supplies” link on our website, or call Susanne (see contact info above). We’ll build hive bodies, supers, telescoping covers, and put together frames; we’re not making screened bottom boards, as those are complex. Coffee, tea, hot chocolate & snacks will be provided.



Above, LCBA Mentorship Coordinator Kent Yates with new beekeepers at our February 2014 hive assembly workshop.

Washington State Apiary Registration 2015: It's that time again . . . WSBA encourages beekeepers to register hives: registration fees help support honey bee research at WSU. Did you know - not registering hives actually works to drive down compensation to commercial pollinating beekeepers? To learn more, visit WSBA: <http://wasba.org/register-your-hives/> .

Cost of hive registration: for 1-5 hives: \$5; 6-25 hives, \$10; 25-100 hives, \$25. This year's hive registration form is attached to this newsletter's cover email.

Feb 28, Mar 7, 14, 28, & Apr 4: LCBA's BEGINNING BEEKEEPING CLASS

When: 9 a.m. to noon

Where: Centralia College Student Center, 212 S. Rock, Centralia WA 98531

Registration Brochure: available under “Upcoming Events” on LCBA’s website. LCBA offers the Washington State Beekeepers' Association's apprentice beekeeping curriculum.

The class builds core beekeeping skills and covers basic bee biology/behavior, equipment & apiary set-up, seasonal management, identifying & managing pests, honey harvesting, and overwintering. Students completing the course earn WSBA's Apprentice certificate & can advance to Journeyman & Master Beekeeper courses. Washington State Beekeepers' Association manual lays out basics for beginning beekeepers; LCBA's PowerPoints & demonstration materials supplement manual with visuals. Questions encouraged; children welcome.

Post-Course Support: LCBA's free Mentor Workshops give hands-on guidance in working bees. Students who join LCBA are eligible for discounts on spring package / nuc bee orders & free consultations with an individual "bee mentor."

Course cost: \$35 individual, \$50 couple/family. Spring 2015 instructors: LCBA Education Coordinator Tomme Trikosko, President Norm Switzler, & Secretary Susanne Weil.



LCBA's beginning beekeeping class is supplemented by free hands-on workshops. Above left, LCBA President Norm Switzler guides new beekeeper Kevin Phillips in a hive inspection at our June 21 workshop last year; right, Education Coordinator Tomme Trikosko teaches how to assess brood pattern.

March 5: Legislative Honey Bee Awareness Day ~ Olympia

Where: on the North steps outside the Capitol legislative building

When: starting 9 AM.

What: This action will help promote the work of the legislatively-mandated statewide Honey Bee Work Group (To read the complete report, visit: <http://agr.wa.gov/FP/Pubs/docs/103-435HoneyBeeWkGroupReport121214.pdf>). The work group's recommendations include: Increasing bee forage across the state; Incorporating honeybee & pollinator concerns in noxious weed board listing & control efforts; Increasing research re: Varroa mite control, honeybee genetics & issues of increased forage; Designating beekeepers as farmers for tax purposes; Funding a more comprehensive bee lab at WSU & hiring two full-time positions there.

For more information, contact: Franclyn Heinecke 253.531.0933 (President, Pierce County Beekeepers, Honey Bee Work Group) or Laurie Pyne 630.577.7825 (President, Olympia Beekeepers).

For more details, visit: <http://wasba.org/wp/wp-content/uploads/2015/01/2015-WSBA-Flyer.pdf>

Wednesday, March 11: LCBA Monthly Meeting

Topics: Package Bee Orders; Spring Management Issues; Do-It-Yourself Projects II: More Things You Can Do This Winter for a Better Bee Season in 2015!

Spring Management: What can you do to help your over-wintered bees transition to spring? Experienced beekeepers will share their ideas; Q&A.

More DIY Projects: Thanks to the great reception LCBA members gave our November presenters, our March meeting will feature more members' ideas & projects you can work on to make this season's beekeeping better. Kent Yates will present his in-hive thermometers for monitoring cluster temperature...Dan Maughan will present his nuc box designs.... We may be able to show a solar wax melter you can make at home.

Saturday, March 21: Hive Assembly Workshop #2 (Langstroth Hives)

Time: noon to 4 pm, Chehalis

Where: for details & directions, email susanne.beekeeper@gmail.com or call 360 880 8130 for directions.

What to bring: woodenware, frames, foundation – and questions! LCBA will provide tools, glue, & screws. If you need woodenware, check the “Beekeeping Supplies” link on our website, or call Susanne (see contact info above). We’ll build hive bodies, supers, telescoping covers, and put together frames; we’re not making screened bottom boards, as those are complex. Coffee, tea, hot chocolate & snacks will be provided. Please RSVP if you can so we have an idea of numbers! Attending this workshop is free; if there are more participants than equipment, first crack goes to members, but we expect that everyone can get their boxes on ☺



FYI: Children are welcome at LCBA classes, events & workshops. Above, scenes from our April 2014 hive assembly workshop: left, the Phillips-Newton clan with the Gorremans' granddaughters; right, former treasurer Jon Wade thinking outside the hive box.

LCBA MONTHLY MEETING NOTES: JAN 14TH



Above left, Tim Weible with his mason bee display at LCBA's January 14 meeting; right, adult mason bee (Sproutinglife.com)

Our January Speaker: Tim Weible ~ Getting Started with Mason Bees

LCBA President Norm Switzler opened the meeting by noting that though honey bees are LCBA's primary focus, we also want to learn about and promote the well-being of other pollinators. Toward that end, Norm introduced Tim Weible – manager of the “Honey Hut” at Pioneer West and a long-time beekeeper currently pursuing Master Beekeeper certification with the Washington State Beekeepers' Association. Mason Bee health is one of Tim's Master Beekeeper research projects.

Mason bee life span: Tim started by quizzing us about the worker bee's summer lifespan (4-6 weeks) and winter span (5-6 months). The lucky winners got honey sticks from Tim's assistant, Shelby Albert. Mason bees are technically gregarious, but they are a solitary bee, and once they emerge after winter hibernation, they come out of their little release tray, “go potty, and then get right down to the business of mating and pollinating.” The males emerge from hibernation in spring when the temperature gets into the mid-50s: then, within 2 weeks, the females emerge. Honey bees breed in air, but mason bees will breed as soon as the female comes out of the colony: the boys “lie in wait” for her and breed her ASAP. Unlike drone honey bees, the act of mating doesn't kill the males, but they do die soon after.

After emerging from hibernation each spring, female mason bees also live about 4 to 6 weeks. A mason bee female is born with 35 eggs: she lays an egg a day during her brief adult life, then dies soon after laying her last egg. Almost all the eggs she lays will be females - except those last few eggs that she lays toward the outside of her housing tube. Those outlier eggs are all males. In the instinct system of mason bees, apparently if the males are eaten by predators, that's no tragedy for the continuity of the bees: the males are more expendable. “Sorry, guys,” Tim quipped.

Mason bees' eggs hatch about two months after being laid, and the larvae live for their first month on the pollen/nectar mixture in their tube. Then they spin cocoons – which are actually waterproof – to house themselves. By the end of summer, the larvae will become adult pupas, which then hibernate till the cycle begins again the following spring. *(For more on mason bees' life cycle, visit: http://lewiscountybeekeepers.org/yahoo_site_admin/assets/docs/Mason_Bee_Life_Cycle.357133302.pdf. Kimo Thielges wrote this along with a series of informational pieces on the mason bee - all are posted on our website under Resources/Links → Mason Bees).*

Tim showed clips from a remarkable DVD titled “Inside the Hive.” First, he showed the female mason bee, moving incredibly rapidly, creating a pollen loaf inside her mud nest. We watched as she scraped pollen bits and compressed them into a patty. Then she laid an egg on top, made a mud partition, then started over laying the next egg. The film illustrated that to keep mason bees, we need a moist area with mud and dirt, not exactly a challenge for us here in southwest Washington.



Above left, Tim Weible & assistant Shelby Albert; right, a cross-sectioned mason bee nest from a “managed system” with seasonal cycle chart

Mason Bees’ Pollinating Prowess: Mason bees’ official name is “*Osmia lignaria cresson propinqua*,” though Tim doesn’t get that formal with his bees. Their more popular names are the orchard Mason Bee, blue mason bee, and (plain old) mason bee. Whereas honey bees are “only a 5% pollinator,” mason bees are 99% pollinators. What makes mason bees so astonishingly efficient? When they land on a flower, they go straight for the flower’s filament and its pollen; in contrast, honey bees go for the nectar and pick up pollen along the way. But mason bees want pollen first and foremost: they lay their eggs on pollen they bring back to their homes, and that pollen then feeds the mason bee babies when they hatch.

Other Mason Bee Advantages for Gardeners: Mason bees offer gardeners two other key advantages in addition to their pollinating prowess. First is their relatively high tolerance of cold temperatures. You can put their cocoons into your refrigerator, then – advantage #2 – choose what month you want to bring them out to do their pollinating. When you turn them loose, they need three 50-degree days to wake them up from their diapause. After this, they will fly & pollinate for about 4 to 6 weeks.

Mason Bee Management: The Rustic System: To illustrate how mason bees make their cocoons, Tim passed around a cross-sectioned block that showed the small pellets. Tim noted that mason bee keepers can choose a managed system or a “rustic system.” The rustic system uses solid blocks, which can’t be taken apart and processed: you just leave the blocks outside and let nature take her course (see photo below). Tim noted this system’s disadvantages: mason bees don’t clean out the old tubes, and this

is a problem with the rustic system. Once they've used the nest, if you don't ream holes out and purify them, the bees will go somewhere else.

Pollen Mites: Also, mason bees can suffer from pollen mites. Tim passed around a sample of dead mason bees with mites: the pollen mites eat the pollen that the mason bees previously gathered and do not let eggs develop (see below). The earlier film clip showed the pollen mites completely devouring the pollen food supply, leaving nothing for the mason bee larvae. The females must crawl through their tube to get outside, so the mites attach to them then. Fortunately, pollen mites are NOT transferable to honey bees.



Above, left, mating mason bees covered with pollen mites (Matt Cole Photography); right, the “rustic system” of mason bee management (Susanne W.)

Mason Bee Management, Option 2 – The Managed System: In the managed system of mason bee keeping, beekeepers use a special “mason bee condo” that can be opened up so that pupae can be removed and stored *en masse* in a refrigerator. This has the great advantage of allowing the beekeeper to separate the pupae from the mites (see photos below).

Tim's done an experiment to test what is most appealing to mason bees, the smaller rustic system or the managed system? For show & tell, Tim brought a “Mason Bee condo” with 5 different kinds of wood and different lengths of tubes, all the way up to 12 inches long, as well as some wider tubes (see photos below). Tim has observed that cedar is just not that appealing for these bees: it is a vine, and no matter how sharp your router, it leaves little slivers: what's just a little sliver to us, to a mason bee is like a telephone pole. We don't know if mason bees' relative aversion to cedar has anything to do with aromatics: Tim's still checking that out.

Straws to house your mason bees: it's hard to find a 5/16” bit to make that optimal-width tube for mason bees, so you need a 3/8” bit: be sure to hold it up so that you don't get full depth. You can design different houses for different applications with mason bees. On 50 – 55+ degree days, they come out. For best results, place mason bee boxes 5 to 15 feet off the ground. It's important not to jiggle their box or tubes: mason bees lay their eggs on pollen grains, so if you jiggle their box, the eggs would fall off, preventing larvae from developing. If the egg falls off that pollen grain, it will starve to death: unlike with honey bees, there are no nurse bees to feed them. Tim was asked if cardboard can be used, and he said this works: once mason bees lay in a cardboard tube, you can process that tube in September, submerging it in water up to 48 hours. The pupa is waterproof, so the submersion doesn't drown the bees. The tubes then open up and you can store the pupas themselves.



Above, mason bee blocks in a mason bee condo; right, a door with slits allows mason bees to exit and re-enter, but helps keep potential predators out.

Tim waits till Thanksgiving to scrape out the pupae and separate them from the pollen mites. He uses 1 gallon of water and adds one tablespoon of purex, swishes the mixture around for 10 minutes, then takes it right into kitchen sink: the mason bee eggs will float, “just like popcorn,” leaving the dirt at the bottom of the bowl. Be sure to use just cool water: don’t wake up the bees with warmth. Then, rinse them off well and find a saucer: you can get about a thousand on a cookie sheet, as Tim showed. He noted you mustn’t put them next to a wood stove or other heat source, but rather, in your garage or somewhere else that is cold, but where mice or chickens won’t get them. The smaller eggs are boys; the bigger ones are girls. The mason bees’ reproductive ratio is about 1:5 boys: girls.

Below left, carving pupae out of blocks; right, sorting pupae from pollen mites and detritus:



Optimum tube length? For his Master Beekeeper project, Tim is pursuing a project with scientists in Idaho. They're examining the effect of different lengths of tubes: 6 inches, 8, 12, and other lengths. So far, it looks like 8" is the optimal length preferred by mason bees. This is a tube that is not too short – if it were too short, then all that the tube will contain will be female eggs – but it is also just long enough to have those needed male eggs at the end. In a “box condo” like the one Tim brought in to display (see photo, below), a whopping 30,000 eggs can be stored! Tim also wonders: could mason bees pollinate almonds in California? We know that they are more efficient pollinators than honey bees, and as they are more user friendly, “this could be major money.”

Mason Bee Q&A: Tim took questions, as follows:

Do mason bees return to their old nests at the end of their first season? Not all, but many will – another reason that cleaning is important.

Do mason bees also feed nectar in the pollen patties they make to feed the babies? Yes, they do put a tiny bit of nectar into the patty with the pollen, but not enough to ferment.

Timing & mason bee emergence: Tim noted that if you turn mason bees out in March, and the female lays an egg a day, then by April, she's “dead and done” with next year's eggs laid. If you clean their tubes at Thanksgiving, you can turn them out in March.

Are mason bees native to the Americas? Yes. Warmer climate varieties are in the California basin. Their only downside is that keeping only mason bees, you get no honey.



Above left, mason bee pupae in tray; right, mason bee pupae stored after cleaning.

Can you reuse the wood trays? Yes, after cleaning and soaking - but do not soak them in a chlorine solution, and be sure to rinse the trays hard, so that other odors don't interfere with their pheromones.

Do mason bees suffer from other parasites or diseases, besides pollen mites? So far, not yet: they are not social insects like honey bees or ants, who have multiple generations in the hive, thus giving pathogens multiple opportunities to live. Yet another advantage of mason bees: no need to medicate.

Could there be too many mason bees in an area, causing starvation? No: they will find other places to nest, and you can maximize how many mason bees you keep by having condos, which give lots of nesting opportunities. Tim was asked how many a typical backyard can sustain before the population

gets saturated. Tim says it's hard to know: he suggested starting with 20 in 5 different layers, then seeing how it goes.

Do mason bees sleep? Not till fall hibernation. During their pollinating season, when night comes, they fly right into their tunnels. To mark their tunnel and help find their way home, they actually vomit on it! If you shine a light in at night, you'll see them all sitting in there, waiting for daybreak.

In nature, do mason bees create their own tubes? No: they find areas to make into habitat. They choose areas that other bugs have used, like cracks in shingles or in walls. They like 5/16 of an inch because it is small: they feel confined, yet the space isn't too big for them to make their partitions.

How do newly hatched mason bees know what end to go out of? The female lays the eggs head first, and the tube usually has just one opening. If you wash the tubes, as described above, and sort the pupae from mites and detritus, but put them back into dead-end tubes, there's really only one way for them to go. When Tim cleans them, he "sexes" them – males are smaller, so that makes it easier to tell.

Optimum storage? If you leave them outside, they will not come out till it is warm enough; then, whenever they come out, they are good for a month. Tim keeps his in the refrigerator; he keeps them at 38 degrees, "just like my beer." Tim warns that if you store the bees in Tupperware, don't lock it shut or they will suffocate. He also uses a predator guard on his condos so that birds can't get the bees (see photo, above). Leaf cutter bees can get into the tubes, however: they are smaller bees and can infiltrate, so they can pose a risk to mason bees.



Above: Tim guides LCBA members in carving out mason bee pupae from blocks without harming them.

Timing for putting mason bees out from storage: He thinks it's great if people can decide what crop to turn them out on. However, he would not keep them in the refrigerator later than May/June, at which point there wouldn't be much for them to forage on. After his mason bees are done working, he leaves the trays out all summer, nice and warm, in deep diapause, then does cleaning at Thanksgiving. After cleaning, Tim doesn't put them back into tunnels: he just stores them and then, when they hatch, they go into tubes you provide on their own.

What kinds of wood are best for the trays? Tim recommends white fir or Doug fir: he hasn't tried alder because it warps too much, and see comments above v.s. using cedar. Dennis asked if he ever uses plastic: Tim said no, because it promotes too much warmth.

Foraging range of mason bees? Kimo Thielges noted that honey bees will go 4 to 5 miles, but mason bees will only go about 100 feet, which is important in thinking about placement for pollination. Tim said this was a great point: honey bees have honey for fuel, and they can release their food slowly, but the mason bees don't have anything like that kind of "fuel cell".

Can mason bees sting? Mason bees do have stingers, but much less venom than honey bees, and they are not very defensive, so they are good to have around children, the elderly, or close proximity to your porch. Kimo Thielges noted that Gordon Bellevue was one of few ever to be stung by a mason bee. In general, Kimo noted, mason bees are a good way to decrease kids' fear. You can watch them come and go: if you don't bother them, they don't bother you.

Do mason bees and honey bees compete for forage? Yes, but not in a bad way: the presence of multiple pollinator species spurs efficiency, and they all seem to get along. Ted Saari noted that re: comingling, he counted 15 different species of bees on the same bush at once!

Do mason bees have different races, as honey bees do? Tim says no.

Where can people get mason bees? You can make blocks and put them out and hope to attract mason bees this spring. Kimo Thielges noted that to attract mason bees to a fresh box, if you put the boxes near an orchard tree, they will go to it. Gordon Bellevue noted that he had mason bees filling up cracks around his place: they are native, and if they find a hole, they will plug it, but if you give them a box, it is easier for them, so they will be more likely to come.

Tim will have mason bees for sale at Pioneer West starting in February. He sells the eggs and cocoons in little tartar sauce cups with holes in them for \$30. Then you can buy or make whatever habitat you want so nothing can get to them.

MASON BEE STARTER BLOCK VOLUNTEER PROJECT: CAN YOU HELP?



Above, longtime LCBA member & beekeeper Kimo Thielges, left, answering visitors' questions at the 2014 Southwest Washington Fair; right, at our December 2103 holiday potluck.

Kimo Thielges, who has kept mason bees for over 20 years, complimented Tim and Shelby on a great presentation. Some years ago, Kimo started giving away mason bee starter blocks at the Master

Gardeners' spring "Gardening for Everyone" event. This project expanded when Bob Taylor started projects with grade school children, adding mason bees to vermiculture and other opportunities for kids.

Kimo used to achieve 200 blocks a year, but the last two years, he had only 50, so he is suggesting that a group of 20 LCBA volunteers try to raise 10 starter blocks each to help provide dissemination at this year's March 7 Gardening For Everyone and also provide some for Bob's classroom project. We passed around a sign-up sheet and got a dozen volunteers: those interested in participating can contact Kimo at kimosabe@compprime.com or our Community Outreach Coordinator, Dan Maughan, at ultramafic@netzero.net.

Starter blocks could be 4 inches long with 5/16" wide tubes. Kimo was asked about spacing between the rows: he suggested a quarter of an inch, and noted that he uses recycled pine. Asked when to clean, Kimo recommends new blocks each year, filled each year. No pressure treated wood: that's not conducive to mason bees, and aromatic woods are not necessarily good for attracting them.

Norm asked: would people build blocks themselves, or have a project workshop? Kimo said that either would be fine; a high school or beekeepers' workshop would also be a good idea. More news at our February meeting!

Everyone thanked Tim and Shelby for a great presentation, as well as Kimo for this cool volunteer opportunity. With that, we took a break, and members swarmed Tim's show & tell display (see photos above).

January LCBA Business Meeting

Treasurer's Report: Treasurer Rick Battin reported on LCBA's balance (\$3598.51, not including dues paid so far this year). The audit of LCBA's books will be presented at our February business meeting: this year's audit committee is comprised of Rick, Steve Howard, and Gordon Bellevue.

Update on LCBA shirts and patches: Due to a price bump at Alderson's Awards West, LCBA t-shirts will now be \$17; we've added the option of the 2XL size, which costs \$19. We discussed the possibility of having iron-on patches with the LCBA logo. We had talked about getting jackets with the logo, but often, people want their own style of jacket, whereas a patch could be put on any clothing item. It was asked whether we really need this, as many don't wear nametags at the meeting. Others expressed interest. Rick will bring a model & price schedule to our February meeting. Steve Howard suggested vests with the logo that the club could make available for volunteers at the Fair to wear so the public can quickly identify whom to ask questions about bees. The board will look into options and report back.

Membership Dues are . . . due. Forms are available at our meetings, as well as on the website (on our homepage, click on the Membership link). To participate in group package bee orders, one must be current on dues. Dues are \$34 for first time joiners (\$10 initiation fee covers the name badge); \$24 renewals. The price is the same for individuals, couples, and families. Dues support our events & keep them free, so please join or renew your membership!

2015 Package & Nuc Bee Orders: Renzy Davenport reported on bee order issues. Renzy is coordinating bee orders for Olympia Beekeepers as well as for LCBA. One major issue is insurance: he was shocked to learn how many large orders go out, yet vendors do not insure those orders. At Oly Beekeepers, this was a major concern: if you pay up front, you need insurance to protect members' money. They have found a supplier who offers insurance and are working out details for 3- and 4-pound packages of Carniolans and Italians; queens of both races will also be available. Queens would come from Parks, Conants, or Oliveras, but these would be good stock. Parks gets queen stock from Sue Cobey.

Prices: Prices are higher this year. Last year, we paid \$72 for a three pound package, but this year, the going rate is about \$100, and Olympia is still working with the vendor on the price for the group: we hope to have firm prices by the end of January. Tomme Trikosko noted that the major drought

in California has helped cause the price hike; Kevin Reichert noted that the prices are pretty much the same nationwide. Nucs should not be significantly different from last year – about \$95 - but this too is tentative. Everything is based on how bees do in California.

Norm asked whether we might investigate combining forces with more bee clubs to try to deal directly with suppliers: Renzy noted that even if LCBA, Olympia, Pierce, and Puget Sound blended, we still would be unlikely to get an order large enough. A show-of-hands suggested that many still want to order, and many of the spring beginning beekeeping class students will likely order too. Norm thanked Renzy for his efforts.

Post Meeting Update on Bee Orders: Package bees will be \$100: 3 pounds, either Italians or Carniolans. Queens will be available, both races, for \$32. Nucs prices are still up in the air but likely to be between \$95 and \$100; however, the number of nucs is limited and only 50 will be available, so they will be first come first served. Orders will be taken at our March 11 meeting starting at 5:30 p.m. to 6:30 p.m.: checks or cash only for package bees; a sign up sheet will be available for nucs. More details on nucs will be available hopefully by our February 11 meeting; if not, an email will go out as soon as we know. As last year, there will be a central pickup spot, and Norm would bring the bees down to us to distribute. Bees would not be coming from the same supplier as last year, though also out of California: Renzy reports that the vendor has a good reputation.



Above left, Renzy Davenport -coordinating our package bee orders this year- pictured June 2013 with some apian friends at WSU-WSBA Bee Field Days; right, Education Coordinator Tomme Trikosko tenderly tucking in package bees at last April's windy package bee pickup (because bees need love, too).

Upcoming Events: See this newsletter, pages 2 – 5. When polled, about a dozen members expressed interest in an additional hive assembly workshop, now scheduled for February 14, 10 a.m. to 2 p.m. This workshop will give precedence to LCBA members if there is a wait for work stations; to RSVP and get details, email Susanne at Susanne.beekeeper@gmail.com.

Journeyman Beekeeping Class: Education coordinator Tomme Trikosko announced that she is organizing a Journeyman beekeepers' class for those interested in going to the next level beyond the beginners (apprentice) course. Tomme noted that the Journeyman class really is more a study group, not like the focused curriculum of the WSBA beginner class that many of us have taken. The last cohort of Journeyman students divided up the study topics within each chapter, researched them individually, and reported back to the group. This was a fun and rewarding process (the multiple choice tests, perhaps a tad less so!). To get Journeyman certification, you must have completed WSBA's apprentice course, pass the 10 Journeyman tests with an average score of 75%, amass a range of service points, have a home apiary

inspection with a WSBA certifier, and keep a beekeeping journal for a year. Tomme will be our course facilitator: if you are interested, email her at drtri@rocketmail.com. Steve Howard noted that *The Hive and the Honey Bee* – a.k.a. “the big red book” – is the most useful for getting the answers the WSBA test seeks. Tomme’s been looking into what’s available in local libraries, and internet research works too. Kimo noted that he donated some mason bee resources to local libraries: maybe LCBA could do this re: honey bees. Ed Carter reported that he found free bee books on Amazon Kindle. So far about a dozen beekeepers are interested in joining this year’s Journeyman course.

Beekeeping Q&A: Patricia Ermert asked about the calendar of beekeeping dates that Tim Weible had passed out, which mentions pollen patties and winter patties: what’s the difference? Dan Maughan answered that it’s protein v. sugar content: winter patties have little pollen, because you don’t want to encourage bees to raise brood in winter or early spring when there is little available forage; in contrast, pollen patties, like the ones fed in early fall to help bees build up their winter population, have lots of protein.. There’s a little sugar in pollen patties, but not as much as in winter patties.



Above, honey bee foraging after rain (photo, Kathy Keatley Garvey)

To put it mildly, warm winter weather is causing issues with our bees, compounding the loss of natural food stores that followed last summer’s heat wave. We saw not only yellowjackets robbing bees, but bees robbing bees. Tomme noted that if your bees get challenged by yellowjackets in summer, check for other issues: yellowjackets are a threat to weak, not to strong hives. Renzy noted that if you go out early in fall, follow the yellowjackets, and you’ll know which hives are weak. Susanne remembered that Carl Roush, our January 2014 speaker on yellowjackets and wasps, had suggested that we put out traps early, literally killing queens before they can multiply; however, another member suggested that since yellowjackets are important predators, it might not be a good idea to kill them off. Norm noted that at these meetings, we present all aspects of these issues, so individuals can make their own decisions. All things have their place, though, Norm would prefer if the yellowjackets’ place was not in *his* bee hives. . . Gottfried Fritz asked about entrance reducers: Norm said that necking down entrances can help, but once yellowjackets have found a hive, they will pester incessantly till they get in. One might consider moving an at-risk hive, but hive in that dire straits will likely die anyway.

Re: losing hives, Renzy thinks the best approach is careful fall management and preparation for overwintering. For example, if beekeepers take supers off late, like in fall, the bees may not have enough honey in their brood boxes; their fall foraging may result in uncapped nectar in the hives, which leads to dysentery and mold. Ed Carter asked if he should take out mite boards to allow more ventilation – is it warm enough? Norm thinks yes, and Renz added if we get a cold snap, we can always put those slider boards back in. Norm commented that Gary Stelzner’s results with screened rather than solid bottom boards persuaded him that’s a road to better survival.

COOKING WITH HONEY: SKINNY EDITION! HEALTHY RECIPES FOR NEARLY-NEW YEAR RESOLUTIONS

FROM THE NATIONAL HONEY BOARD: *Honey.com*

(Photos from the National Honey Board. FYI: If the concept of “skinny honey recipes” makes you feel sad, email Susanne to be cheered up by some great bacon recipes ☺)

Skinny Honey Lime Chicken Enchiladas

Ingredients:

- 2 large chicken breasts, cooked and shredded
- 12 oz green enchilada sauce
- 1/3 cup HONEY
- 1/4 cup lime juice (about 2 limes)
- 1 Tb chili powder
- 1 tsp garlic powder
- 8 medium whole wheat tortillas
- 2 cups - Mexican cheese, shredded
- 3/4 cup 1% milk
- 4 tablespoons cilantro
- 1/3 cup - light sour cream



Directions:

Preheat oven to 350 degrees. In a 9 x 13 baking dish, pour a few ounces of enchilada sauce to slightly cover the bottom of your dish. Set aside. Whisk together the honey, lime juice, chili powder and garlic powder. Pour this marinade over the shredded chicken and stir so all chicken gets covered in marinade. Let sit for 30 minutes. Place chicken into middle of tortilla and top with cheese. Roll tightly and place into baking dish. Repeat. Sprinkle remaining cheese on top. Coat the enchiladas with the leftover marinade using a pastry brush. Bake for 20 minutes or until tortillas are slightly brown.

While enchiladas are in the oven, make the enchilada sour cream sauce by placing the milk, remaining enchilada sauce, 2 tablespoons cilantro, and 2 tablespoons sour cream in a small saucepan on medium heat. Stir frequently until thoroughly heated.

Drizzle the enchilada sour cream sauce as desired onto enchiladas which can also be topped with leftover sour cream and cilantro.

Honey-Peanut Butter Protein Energy Balls

Ingredients:

- 1¼ cup old fashioned oats
- 3 Tbs shredded coconut
- ½ cup sliced almonds, finely chopped
- 1 Tb hemp seeds, shelled (optional)
- 1 scoop - whey protein powder
- ½ cup HONEY
- ½ cup dried apricots, chopped
- ½ cup peanut butter

Directions: (next page)



Directions, Honey-Peanut Butter Protein Energy Balls:

In a medium bowl, add the oats, coconut, almonds, hemp seeds and protein powder. Stir until well distributed. Add the honey, apricots and peanut butter and stir well. Put mixing bowl into the refrigerator for about 20 to 30 minutes. Then roll into rounded balls. When chilled, they can last about 5 days.

Chilled Poached Salmon Salad with Honey-Yogurt Dressing

Ingredients:

- 4 (6-ounce) salmon filets with skin
- 4 cups olive oil
- 1 shallot, thinly sliced
- 1 lemon, thinly sliced
- 6 cups arugula or baby mixed greens
- Kosher salt, to taste

For Dressing:

- 1 cup plain Greek yogurt
- 3 Tbs fresh dill, chopped
- 3 Tbs HONEY
- 2 tsp lemon juice, fresh squeezed
- 1 tsp salt
- 1 tsp lemon zest
- ½ tsp Dijon mustard



Directions:

Preheat oven to 200 degrees. Place salmon filets skin side down in a 13-by-9-inch baking pan. Pour enough olive oil into pan to completely cover the salmon. Sprinkle with the sliced shallots and lemons, pressing them down to submerge them in the oil. Cover pan tightly with aluminum foil; bake until firm to the touch, 30 to 35 minutes. Allow to cool in the oil. Using a metal spatula, remove from the oil (reserving 1 tablespoon), cover and chill in the refrigerator for at least 30 to 45 minutes. In a medium bowl toss the arugula, salt and the reserved olive oil.

To serve, divide the greens between four plates. Top with chilled salmon and coat with ¼ cup of the honey-yogurt dressing (recipe follows). Serve immediately.

For the honey yogurt dressing: In a medium bowl combine the yogurt, dill, honey, lemon juice, salt, lemon zest and mustard; whisk together. Cover and refrigerate if not using right away. You can make the honey-yogurt dressing a few days in advance if kept in airtight containers.

Tropical Honey Coconut Water Cooler

Ingredients:

- 1 cup coconut water
- 1/2 cup pineapple chunks, canned or frozen
- 1/2 cup – banana
- 2 Tbs HONEY
- 1/2 tsp coconut extract
- toasted coconut
- 3 Tbsp rum or tequila, optional



Directions for Tropical Honey Coconut Water Cooler:

In blender, combine all ingredients except toasted coconut. Blend on high speed until frothy; pour into a 16-ounce glass and sprinkle coconut on top.

Sage-Honey Roasted Acorn Squash

Ingredients:

- 2 acorn squashes
- 1 cup plus 1 Tb water
- ¼ cup HONEY
- ½ tsp salt

For Honey Butter:

- ½ cup unsalted butter
- ½ cup HONEY
- 2 Tbs fresh sage leaves, chopped
- Salt to taste



Directions:

Preheat the oven to 350 degrees. Cut each acorn squash in half lengthwise and, using a metal spoon, scoop out and discard the seeds and any pulp. Pour 1 cup of water into a 4-inch deep ovenproof pan; arrange each squash, cut side up, snugly on top.

In a small bowl stir together ¼ cup sage honey, 1 tablespoon of water and salt; brush the cut side of each squash with the honey solution, making sure that all of the honey solution is used. Cover the pan tightly with foil and bake for 30 minutes.

While the squash is cooking, make the sage honey butter. Heat a 6-inch sauté pan over medium heat until hot; add the butter and swirl until foaming; cook until nutty brown in color. Remove from the heat and immediately add ½ cup sage honey and the sage leaves, stirring well. Set aside.

Remove the foil from the squash and bake for another 15 minutes or until golden and tender when tested with the tip of a knife. Transfer the squash to a serving platter and spoon the sage-honey butter on top, then sprinkle with salt.

For more recipes, visit honey.com or check the “Cooking With Honey” page under the HONEY link on LCBA’s website, www.lewiscountybeekeepers.org.

BEES IN THE NEWS

Thanks to Fran Bach, Linda Gorremans, Steve Norton, Kevin & Jeanne Reichert, & the good folks at American Bee Journal and Bee Culture magazines & Pollinator Stewardship Council for news items.

“HOW A WARM WINTER AFFECTS OUR BEES,” by Dave Stocks, editor of “The Buzz,” Gilroy Beekeepers’ Association Newsletter (California)

“Fruit trees need a certain number of hours below 45° to set fruit. The exact number of hours depends on the variety. These hours need to be accumulated between mid-November and February. For example, cherries need about 700-1000 chill hours, depending on variety, to reliably flower and set fruit. As of January 28th, we accumulated 567 hours below 45°. This compares to 881 hours by the same date last

year. If anyone is interested in tracking chill hours, you can go to;
http://fruitsandnuts.ucdavis.edu/Weather_Services/chilling_accumulation_models/Chill_Calculators/index.cfm

“How does this affect our bees? Cherries can probably be called, from the small beekeepers standpoint, a minor food source for bees. But the warmth has also affected the bloom cycles of other, more valuable nectar sources. Now, in January, I have lavender blooming, in fact, it has never gone dormant. At my bee yard in the hills, the buckbrush (*Ceanothus cuneatus*), is beginning to bloom. Normally I wouldn't expect this until later in February. The buds on Toyon are beginning to swell, and indication that the bloom is not far away. Usually, Toyon won't bloom till June. If we just look at today, this appears to be fantastic. The bees are flying, they're bringing in pollen and building up rapidly.

“But all is not sunny (no pun intended). A prolonged cold, wet spring could present problems. Depending on your management philosophies, you may have to begin feeding syrup and pollen patties to maintain the current health of the hive. On the other hand a dry spring, to go along with our zero for January rainfall, could be problematic. So hold on, it's going to get interesting!”



Above, lack of forage makes for odd dietary choices: LCBA member Susan Allen sent in this photo of her & Ed Carter's bees foraging on cracked corn!

“\$2.5 Million Dollars Falsely-Labeled Chinese Honey Seized in Houston”: *Bee Culture* and *American Bee Journal*, 29 Jan 2015

Houston was a hot spot for illegal honey between January 23 and 27th, when 450,000 pounds of honey from China was seized by U.S. Immigrations & Customs officials. The honey had been labeled as Malaysian and Indian. The brokers had tried to avoid paying a 221% import tax, levied to keep U.S. honey “competitive on the domestic market.” Chinese merchants tend to “dump” mass volume of goods below their production costs to undersell U.S. producers – not only honey, but “garlic, shrimp, wire hangers, steel, and magnesium” have been “dumped” here.

The illegal honey will be destroyed, but shows the need for vigilance by customs officials. ABJ quoted Gordon Marks, the Executive Director of “True Source Honey,” arguing that “Consumers, retailers, and

food manufacturers need to demand certified honey” as the only way to stop dumping. True Source is “an industry-supported, voluntary program that has been applauded by U.S. beekeepers and honey industry leadership because it provides traceability from hive to table, helping ensure the food safety and security of the honey used in North America,” according to ABJ. To learn more, visit

www.TrueSourceHoney.com. To read more about the hot honey bust, visit:

<http://www.ice.gov/news/releases/hsi-cbp-houston-seize-illegally-imported-honey-valued-245-million>

For ABJ’s coverage, visit:

<http://us1.campaignarchive2.com/?u=5fd2b1aa990e63193af2a573d&id=37712c25d7&e=e9ff21e0bb>



Busted! “HSI special agent & CBP officer inspecting seized honey” (US Immigrations & Customs)

“Only 85 Comments on a definition of Honey - And Nobody Agrees On What That Definition Should Be”: *Bee Culture*, 28 Jan 2015

Since last August, the USDA Agricultural Marketing Service has been asking for public input on whether a “federal standard of identity for honey would be in the interest of consumers” – but so far, only 85 people have weighed in. 89% of them think a single standard would be a good idea. Among reasons for support: “marketing practices that allowed unrestricted imports of substandard product are putting small businesses out of business, while others felt that without this protection small producers would simply fold, threatening pollination and overall US honey production.”

Opinions about what the definition ought to be varied. Some want a data-driven definition: “Defined filtration levels...from none to a breakdown by microns.” Others argued that a “measurable pollen count to identify floral sources, growing region, and excessive filtration” would be key.66 respondents were individuals; the rest were from organizations like the American Bee Federation, The American Honey Producers’ Association, the Center for Food Safety, and even Monsanto.

“Research Sneak Peak: Can Mushrooms Save Honey Bees?” *WSU Green News*, 29 Jan 2015

“WSU entomologist Steve Sheppard has teamed up with renowned mycologist Paul Stamets of Fungi Perfecti to see if extracts from mushrooms known to have antiviral properties can give bees an

immunological boost. They're also investigating whether parasitic fungi could control mites that carry the viruses that threaten bees.

“Sheppard and fellow WSU entomologist and the manager of the WSU apiary and bee laboratory, Brandon Hopkins, believe their research could lead to less toxic and more effective solutions to control diseases and pests that have commercial and hobbyist beekeepers alike struggling to keep their bees alive.

“What’s most exciting is the possibility of a sustainable way to control mites and viruses,” said Hopkins. “Commercial-scale beekeepers are getting backed into a corner because mites have developed resistance to synthetic pesticides.”

“Existing chemical control methods for mites are coming to the end of their effective usefulness, Sheppard said, because mites have a short life span that allows them to quickly evolve and develop resistance.”

To read more about WSU’s honey bee research – including an update on Eric Olson’s indoor over-wintering project – visit: <http://cahnrs.wsu.edu/blog/2015/01/wsugreen-times-all-about-bees-and-more/>



“Bees in cages feeding on fungal extracts” (Photo by Paul Stamets)

“More Beekeepers Sour on Profession as Winter Die-Offs Continue: Rising Cost of Doing Business Takes Toll on Industry That Pollinates \$15 Billion of Crops”: *Wall Street Journal*, 23 Jan 2015

Entomologist Dennis vanEngelsdorp says: “We’re not worried about the bees going extinct. We’re worried about the beekeepers going extinct.” Many commercial beekeepers are in their 50s and 60s, but as honey bee die-offs continue and the cost of replacement stock mounts, more are thinking about retiring – with no new generation to replace them, since the growth in beekeeping has been among hobbyists, not commercial pollinators. The *Wall Street Journal*’s story profiles 67 year old Orin Johnson, who took over his father’s California bee business.

Among concerns for investigation by the White House task force on honey bee health is “the fate of professional beekeepers.” According to Kansas beekeeper Tim Tucker, president of the American Beekeeping Federation, the ABF’s professional beekeeper registrations has dropped by 50% since 1995. The ramifications for pollination, food crops, and prices at the grocery store are no joke.

Jay Evans, USDA entomologist, says that “If we could remove the Varroa mite from the equation, we’d be back at a sustainable level of loss.” Between varroa treatments, dietary supplements to replace lost habitat and forage, and equipment, Tucker says that “the annual cost of maintaining a hive has quadrupled in the last 15 years . . . it now costs about \$230,000 a year for a professional beekeeper running a modest 2,000 hives.” Those beekeepers soldiering on “say they are being kept afloat by high honey prices, which reached a record \$2.12 a pound in 2013,” plus fees from pollination.

To read more, visit: http://www.wsj.com/article_email/more-beekeepers-sour-on-profession-as-winter-die-offs-continue-1422057396-1MyQjAxMTA1MDI2NDkyNzQxWj



Commercial Beekeeper Orin Johnson assesses his stock (Wall Street Journal)

“Codenamed ‘MiteNot’, this technology is a simple, compostable and pesticide-free way to sterilize Varroa destructor mites”: *Bee Culture*, 28 Jan 2015

Eltopia is working with University of Minnesota’s bee lab on “MiteNot” – a heating process that would sterilize Varroa mites, providing a pesticide-free way to destroy mites in bee colonies. Marla Spivak finds the approach “groundbreaking.”

What does ‘MiteNot’ do? It “uses a compostable circuit board that senses the stages of the bee broods reproductive cycle and applies heat at a specific temperature and time to sterilize the mites. The heat is applied when the honeycomb cells have been capped and the temperature stabilizes. This is the approximate time when female mites lay eggs but before the male mites can fertilize, thus interrupting the mites’ lifecycle.”

Another potential benefit: it’s easy to use. All beekeepers would need to do is swap out one frame for a MiteNot frame: “Eco-conscious and well-engineered, ‘MiteNot’ is housed within a frame and wax covered compostable circuit board. The circuit board is created from renewable resources, such as cornstarch. The circuit board is covered in wax making it undifferentiated in use and appearance compared to a standard honeycomb foundation. Beekeepers can continually reuse the ‘MiteNot’ frame and have the ability to insert a new wax covered circuit board as necessary,” according to Eltopia’s CEO.

Eltopia seeks “commercial beekeepers and academic institutions” for further testing; they hope to make MiteNot in Fall 2015. To read more, visit: <http://wasba.org/catch-the-buzz-safe-innovative-mite-control/>



Could Varroa destructor's days be numbered? See “MiteNot,” above (image, Wikimedia.org)

“Washington State Work Group focuses on helping honey bees & beekeepers: recommends improving forage to help bees thrive”: Pollinator Stewardship Council, 23 Jan 2015

Dr. Tim Lawrence, WSU Island County Extension Director & LCBA's October 2014 speaker, urges that “If you want to help bees, plant flowers. We need acres and acres of flowers.” Dr. Lawrence is a member of the WSDA work group on honey bee issues: members were drawn from commercial and hobbyist beekeepers, the fruit and seed industries, as well as scientists and government officials. Their report is in, and their key recommendations are:

- Concentrating on honeybee health and habitat
- Focusing on better data, resources and awareness
- Considering issues of colony registration and industry taxation.

The report also emphasizes coordinated efforts to “promot[e] bee-friendly practices among beekeepers, farmers, state land managers, and weed control boards.” Although the report recognizes the risks of pesticide poisoning, it does not recommend banning neonicotinoids, at least not yet. Additional recommendations are:

- Funding a WSU extension agent and researcher to advise beekeepers.
- Funding a WSU pollination ecologist to advise producers and public agencies.
- Expand the scope of ongoing bee research at Washington State University.
- Include[ing] beekeepers as “farmers” in state taxation categories to level the playing field with out of state beekeepers.
- Enabl[ing] more placements of colonies on state lands and encourage state agencies to provide healthy bee habitat.

In addition, WSDA is appointing a follow-up group to write a protection pollinator plan for the state whose charge will include revising laws on use of pesticides. To read more, visit: <http://pollinatorstewardship.org/?p=2893>. For the complete report, visit: <http://wasba.org/wp/wp-content/uploads/2015/01/FINAL-Honey-Bee-Wk-Group-Report.pdf>



“High standards of cleanliness can keep those nasty Varroa mites away” (Image: Kim Taylor/naturepl.com)

“Uber-tidy bees defend their hives from disease”: *New Scientist*, 9 Jan 2015

As beekeepers know, bees’ hygienic behavior helps defend colonies against Varroa mites. A new study by the University of Birmingham shows that hyper-hygienic behavior by bees in certain colonies also eliminates deformed wing viruses. Extremely hygienic colonies – those that rid themselves of 95% of infested pupae – suffered less than half as heavy a mite load as less hygienic colonies: not only that, the colonies that rid 80% or more had no deformed wing virus.

Better still, research has demonstrated that “tidying behaviour is a heritable trait,” so beekeepers can watch for this behavior, then graft from queens whose colonies display it. Another study by the Birmingham team “found that when queens from hygienic colonies mate with drones from another hygienic colony, cleaning levels in new colonies populated by the offspring remain high.”

Dr. Marla Spivak of University of Minnesota cautions beekeepers not to rely solely on this behavior: “When some beekeepers have susceptible stock with colonies full of mites, healthy colonies with low levels of mites try to rob honey out of these weakened colonies and get re-infested,” she says. To read more, visit: <http://www.newscientist.com/article/dn26774-ubertidy-bees-defend-their-hives-from-disease.html#.VLR5Rv0tHIV>

“Time in the Hive Makes Bees Exhausted”: *Discover Magazine*, 30 Dec 2014

A new study shows that young bees sleep longer after having been with others in the hive than they do after time in isolation. Researchers think that “the extra nap time” helps “build and maintain their learning brains.” If you’re surprised to learn that bees sleep, you’re not alone: however, studies done beginning in the 1980s have demonstrated that though bees’ “brains are tiny and organized differently from ours . . . they rest in a similar way. And just as sleeping helps us sort through the new things we’ve learned each day, there’s evidence that sleep in bees and fruit flies is also tied up with memory and learning,” according to Dr. Guy Bloch of the Hebrew University of Jerusalem.

The study compared sleeping behavior in bees that spent their first two days of life in the colony with those who were isolated in cages. They found that “immediately after leaving the hive, bees slept about five more hours per day. In all, the socialized bees spent more than 60 percent of the day dozing.”

So: what about colony life tires bees out? To test this, they put the isolated bees back into the hive but in cages that prevented them from touching other bees. Their sleep patterns remained the same as their uncaged sisters. Bloch notes that “beehives are dark and densely populated . . . so bees probably don’t

learn much by looking around. It's not visual input that's wearing them out. But pheromones or other smells may be part of the flood of information they experience. They may also learn from vibrations and sounds in the colony, or possibly even electrical signals." Further research will strive to pin down the factors within the hive that tire bees out.

To read more, visit: <http://blogs.discovermagazine.com/inkfish/2014/12/30/time-hive-makes-bees-exhausted/#.VKVWCivF98E>



Get this girl a cup of coffee . . . (photo, David Farquhar, via Flickr)

Announcements

Time to Register Your Hives with WSDA for 2015 – see details under Upcoming Events.

February 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.

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

That's all for this month - take care, & bee happy!

~~ Susanne Weil, LCBA Secretary (Susanne.beekeeper@gmail.com; 360 880 8130)