

The Voice of Professional and Backyard Beekeeping

Cowlitz Beekeepers Association Newsletter



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

July 2021

Issue 7

Next Meeting:

Where: Anywhere worldwide on your computer via Zoom

When: July 15, 2021, 7:00 PM

Speaker: Dr Dewey Caron

Topic: PNW Honey Bee Survey Results

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

Association Officers and Board:

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Ken Curtis, Trustee (360) 261-2795

Handmade Proud:

Looking to buy new woodenware at reasonable prices?

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

Contact **Gerry Herren**

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

Dr. Dewey Caron, Emeritus Professor of Entomology & Wildlife Ecology, University of Delaware, & Affiliate Professor, Dept Horticulture, Oregon State University will be sharing with us at our July meeting. Dewey started working with honey bees as teenager in Vermont and received his PhD from Cornell University.

He is a past Chairman of the Board of the Eastern Apiculture Society and a past president of the Eastern Branch Entomological Society of America. He is an advisor to the Bee Informed Partnership with which he is heavily involved. Additionally, Dr. Caron is a past president and current board member of the Western Apicultural Society.

He is involved in International Development in Panama, Central America, and Bolivia and was active in the MAAREC (Mid-Atlantic Research and Extension Consortium). He has been the recipient of several prestigious teaching awards.

Dr. Caron retired in 2009 but remains an active participant of state, local and regional bee meetings, and he is actively involved with the Oregon Master Beekeeper Program as an advisor and instructor. He presents over 100 talks each year about such topics as pollinating insects, bees, and natural history topics related to bees and pollinating insects.



Go Fourth Parade

Support our community outreach. See beekeepers face to face again! Wear bee clothing, a veil, or nothing at all. Walk with us for a mile Saturday July 3. Call Kathy at 360-601-0393 for details. Do It Now!



**Mann Lake
motorized 6/3
frame extractor.**

A similar extractor is on sale at Mann Lake for \$773. Price is \$500 or best offer. Contact Allen Bennett at 805-208-7335 or 360-967-2414

Our Zoom Meetings

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

Join us at our next meeting. Click the link I will send out a few days before the next meeting. If you are not a member but would like to attend a meeting, request the code to cowlitzbeekeepers@gmail.com

The Native Bees All Around Us

Linda Zahl, President Columbia County Oregon Beekeepers Association

Ten years ago I became a Honeybee Keeper when a swarm landed on my butterfly bush and another entered my attic space. A friend told me that he would assist me only if I kept the bees. Removing the colony from the attic and hiving the swarm was an adventure which led to years of enjoyment collecting swarms and extracting honey. I soon entered the Oregon Master Beekeeping Program and joined a bee club. The new world of insects was opened to me, and I found myself fascinated with all aspects of these tiny stinging insects.

Four years ago, Dr Andony Melathopolous spoke at our club meeting. He told us that he was starting the Oregon Native Bee Atlas, the first State funded citizen science study of Native Bees and what they forage on. I was astounded that there were native bees out there that I had never noticed. Sure, I knew about Bumblebees and the flashy green sweat bees, but all those other little flitting things on flowers were surely just bugs in my mind. Soon the ladies behind Bee and Bloom, an ecotourist beekeeping business in Portland, had a field day in a Portland area private garden. They brought nets and kill jars and I learned from them how to net and euthanize all these bugs which turned out to be fascinating bees and a few bee mimics! We looked at these bugs under a magnifying glass and saw bees in magnificent shapes, fuzziness and colors: yellow, brown, black, green, blue, copper and every color combination in between. I was now hooked on a new aspect of bees, those that are native and who have little to no voice in their protection.

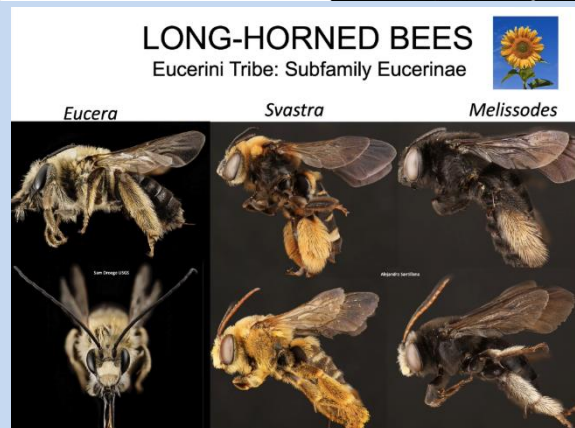
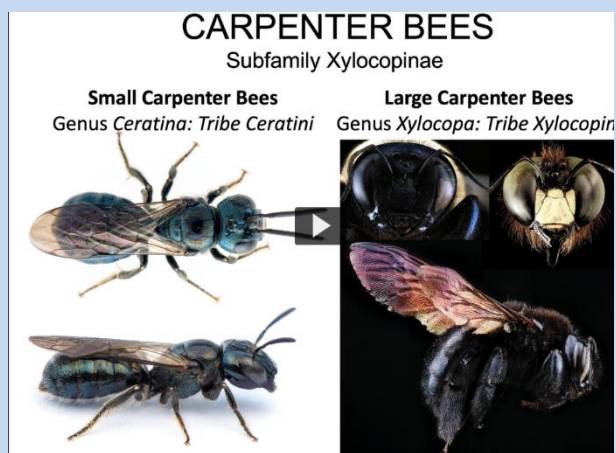
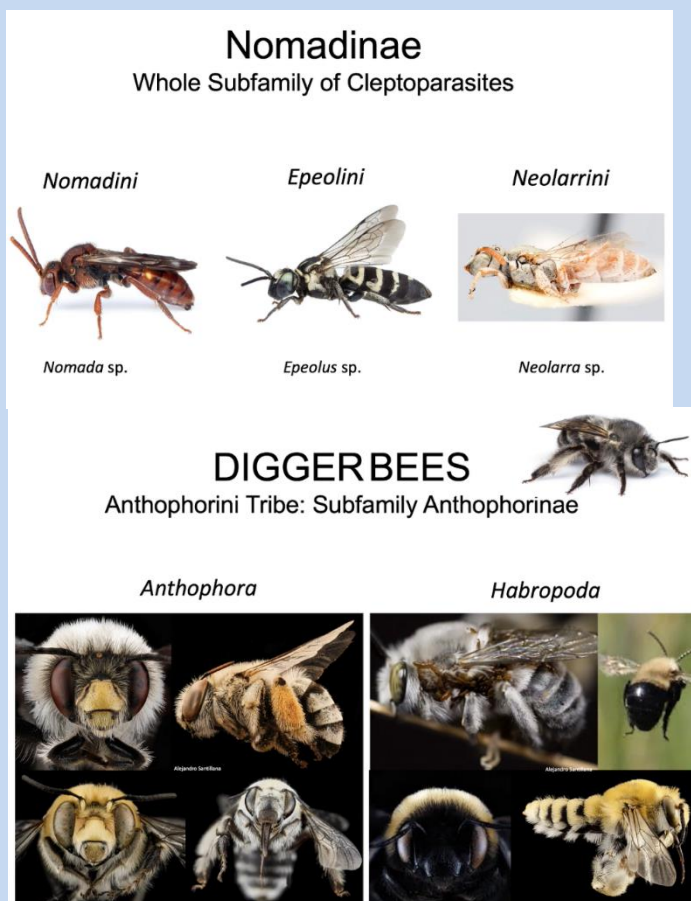
This is my third year collecting bees in Columbia County for the Oregon Bee Atlas and 2021 is the first year that OSU has accepted people from Vancouver BC, Washington, Idaho and even Oklahoma into the Master Mellitologist Program. The Master Mellitologist Program is a systematic on-line program that teaches how to collect, preserve, and identify the native bees. <https://extension.oregonstate.edu/bee-atlas> Those people entering the Master Mellitologist Program from outside Oregon, will keep the bees they collect in preparation for the day that their State begins their own Atlas. I hope that other beekeepers will recognize that we beekeepers are the ideal people to help in the protection of the Native bees and will join the Master Mellitologist Program at OSU.

The Oregon Bee Atlas and the Master Mellitologist Program trains citizen scientists like me to collect and identify native bees and the flowers they visit. This is the baseline of knowledge needed to enact future preservation efforts. At the end of each collection year, November, we send our collected bees with our identifications off to Lincoln Best at OSU who is the Master Taxonomist. Linc then identifies each bee and enters the collection into the database administered by the Arthropod Museum at OSU. There are about 500 species of native bees in Oregon from several Families such as Apidae, Mellitidae, Colletidae, Megachilidae, and Halictidae. Some bees collect pollen on their legs, others on their bellies, and others behind their heads or even others store it internally. Some are very hairy and others have almost no hair and are mistaken for wasps. Some are as tiny as 3 millimeters and others are over an inch long. The Males look different from the females of the same species and so it is important to know that Females have 12 antennal segments and Males have 13. You may ask why the bees need to be killed for the Atlas. Unfortunately, most bees are impossible to identify with only a picture because one needs to look under a microscope to see the hair formations and other body parts. In fact, some have to be identified using DNA. Also, the specimen carries on and in its body lots of information that could be used in future conservation efforts such as mites, pesticides, and pollen.

Those who want to learn more about Native bees may like to listen to the many interviews Andony has made on the PoliNation Podcast. Here is one on the creepy Parasitic bees

<https://extension.oregonstate.edu/podcast/pollination-podcast/126-casey-hale-bees-are-parasites-other-bees>

Following are some pictures of Native bees that are all around us in Oregon and Washington. These photos are just from the Family Apidae which includes the European Honeybee and Bumblebees. The photos come from the Master Mellitologist Program and various sources.



The Buzz on Comb

by John Holmes

Comb serves many functions for the colony. The storage of food resources, pollen and honey, and the rearing of brood are commonly recognized but the comb is also involved in colony communication, chemical information storage, thermoregulation, and colony health. Honey bees and their comb are tightly interwoven, not surprising since bees spend more than 90% of their lives within or on the comb.



Beeswax is produced by eight groups of wax glands arranged in pairs on the ventral side of the last four segments of the abdomen. Peak wax production occurs between the 12th and 18th day of the worker bee's life. Once the wax is extruded onto the body surface of the bee, it hardens into small thin scales. These scales are collected by the bee using the hind legs and passed forward to the mouth using the middle and forelegs. Using its mandibles, the bee kneads the wax mixing it with secretion of the mandibular glands. To achieve the proper consistency for comb construction, the bee spends about 4 minutes for each scale of wax. To produce 8,000 comb cells, about 125,000 wax scales are needed, this is 347 days of kneading effort. Wax production and comb building requires a large energy expense for the colony. Every pound of comb produced (37,800 cells) requires the energy contained in 6.25 pounds of honey. So when a colony swarms, the energy stores the swarm carries will construct about 5,000 cells.

In the construction of comb the cell's upper edge forms a bulged rim. Low-amplitude vibrations, created by activities such as the waggle dance or queen piping, on these rims travel across the surface of the comb. This is a significant role in the exchange of information between bees. A factor that affects vibration transmission is temperature, which the bees can control. Increasing temperature results in improved transmission up to 93.2 F, higher temperature causes the wax to become too soft and transmission fails. Capping of cells also stops transmission. Surprisingly, full uncapped cells do not affect transmission. It has been shown in behavioral experiments bees that dance over cells that are empty and transmit vibrations well, recruit 3 to 4 times as many visits to a feeding site as compared to those that dance on sealed surface.

The comb holds a chemical signature that is alters with time. Through decomposition and evaporation of wax components, addition of enzymes from bees in the kneading process, brood rearing leaving behind chemical signatures of larval debris and excreta, and trapped pollen and resins being imported. The uniformity of new comb is transformed into a patchwork of chemical history records relaying present and past information to the bees.

For thermoregulation the comb has a role in both summer and the winter. To cool the colony, water is placed on capped cells or on the rims of open cells, then by fanning the bees utilize evaporative cooling. In winter, comb filled with honey is an excellent insulation barrier. Also, during the winter, empty cells allow a tight layer of bees to form insulating the winter cluster.

As part of the colony's immune system, the comb provides the first line of defense against pathogens. Cell walls of the brood area are coated with a thin layer of propolis which contain antibacterial and antifungal properties.

The design of the comb with its cells having a 13-degree tilt upward, has been theorized to have evolved to prevent the loss of stored nectar/honey and to prevent brood from falling out. A current study by Oeder and Schwabe has shown this not to be the case. The researchers presented bees with comb placed upside down. The results showed the bees stored honey and reared brood in the inverted comb. It is proposed that the benefit of the inclination of the cells is to direct about 10% of the weight of cell contents onto the midwall, thus increasing the carrying capacity of the comb.

Sources:

Tautz, J., *The Buzz about Bees, Biology of a Superorganism*, 2008.

Oeder, R., Schwabe, D. The upward tilt of honeycomb cells increases the carrying capacity of the comb and is not to prevent the outflow of honey. *Apidologie* **52**, 174–185 (2021). <https://doi.org/10.1007/s13592-020-00807-9>

Will Your Bees Survive the Winter?

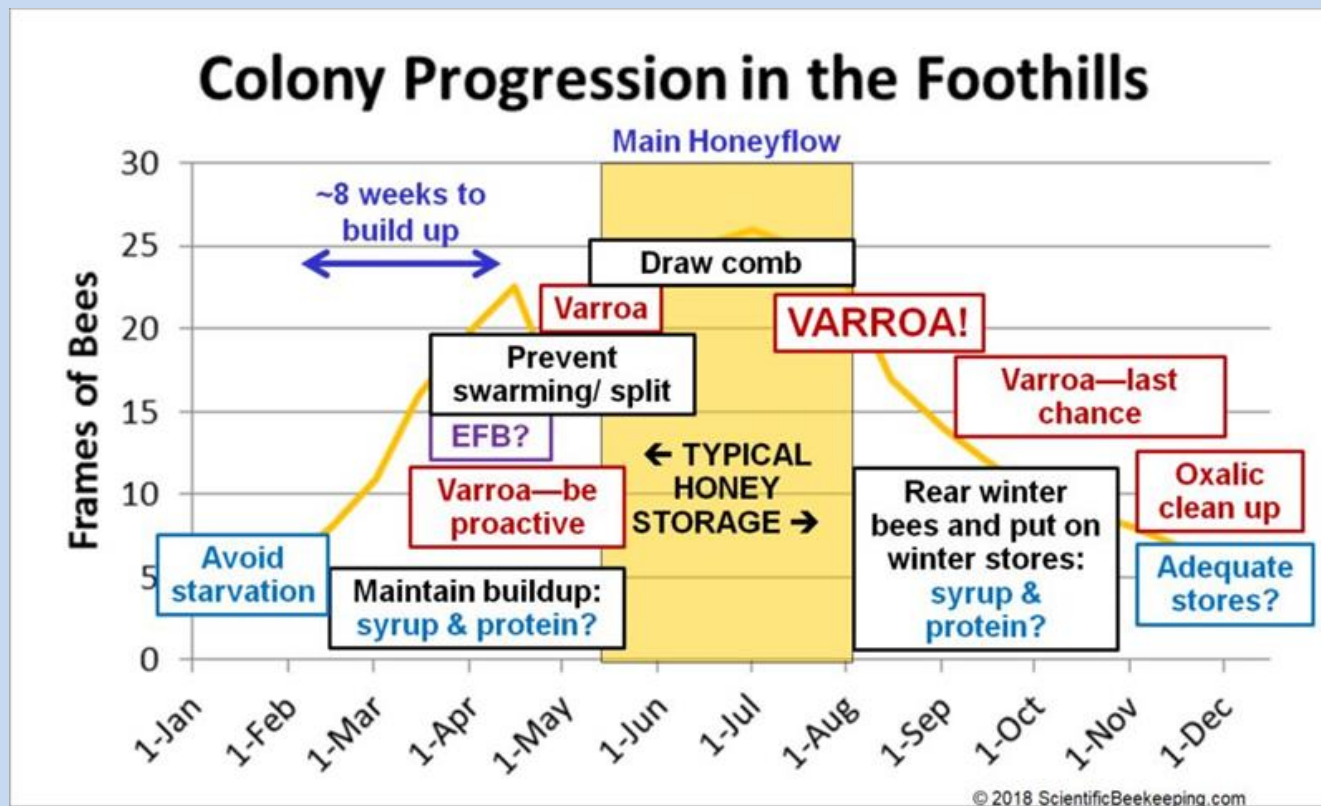
Bill Holmes

Cowlitz Beekeepers Association members lost 54% of their colonies in the winter of 2019/2020. This past winter losses improved to 46%. We all would agree that is too high. Club meetings have featured respected beekeepers and researchers, and all of them have stressed the importance of controlling Varroa in our hives. Last month Dr. Ramsey helped us understand some of the reasons why varroa weakens our winter bees. Weakened honey bees will not survive until spring build up even with bountiful honey stores. Your number one job is to control the varroa mite in your hives.

The Honey Bee Health Coalition's Tools for Varroa Management is an excellent guide which you can download for free. In it they say: "Every honey bee colony in the continental United States and Canada either has Varroa mites today or will have them within several months. Varroa mite infestation represents one of the greatest threats to honey bee health, honey production, and pollination services. When honey bee colonies are untreated or treated ineffectively colonies can fail and beekeepers can incur major economic losses, and, ultimately, agricultural food production may be impacted. In addition, colonies with Varroa are a source of mites that can spread to other colonies, even in other apiaries, through drifting, robbing, and absconding activity of bees. All beekeepers should remain vigilant to detect high Varroa mite levels and be prepared to take timely action in order to reduce mite loads. Effective mite control will reduce colony losses and avoid potential spread of infectious disease among colonies." View or download by clicking https://honeybeehealthcoalition.org/wp-content/uploads/2018/06/HBHC-Guide_Varroa_Interactive_7thEdition_June2018.pdf This guide covers how to monitor and explains treatment options.

Randy Oliver who spoke to us last December also has a very good article called "First Year Beekeeping". It is concise but long. He covers that first year very well and all of us will be better beekeepers if we read it annually. On varroa he says "If you have an isolated apiary, or are fortunate enough to get a queen with the right genetics, your colony may survive without treatment. Sadly, this generally does not happen, and most beginning beekeepers lose their colonies to varroa. This is completely avoidable and can be prevented by regular monitoring of your hive for its degree of varroa infestation with alcohol washes (my preferred method) or a well-done sugar shake. Update: We've found that Dawn Ultra dishwashing liquid, diluted to 1 Tbl per half gallon of water, works even better than alcohol." <https://scientificbeekeeping.com/first-year-care-for-your-nuc/> The





graph below illustrates the importance of controlling varroa. He lives in the Sierra foothills north of Sacramento in Nevada County. The timing might be somewhat different in SW Washington but the curves are the same. You'll notice that he highlights Varroa multiple times across the annual cycle. His article is also very



good at explaining how to monitor mites and discussing the treatment options. There are always options for managing mites. Doing nothing is the least successful. "Control varroa, or colonies will generally die an ugly and unnecessary death from the varroa/virus complex. Not only that, but when that colony crashes, it floods the surrounding colonies with varroa mites, making you a nuisance to both surrounding beekeepers, and the feral population of bees that is slowly evolving resistance to the mite."

Mite treatments are frustratingly filled with tradeoffs, effectiveness windows, and undesirable side effects. But, choose you must so learn how and when to use them correctly. I will be pulling supers at the end of July and immediately do a Dawn wash to establish mite levels. Then I am going to use apiguard which is the first time for me. After that treatment I'll check effectiveness. Then around the first of November I'll use Oxalic acid vapor, and then again at the first of the year. As we move into spring if I cross a mite threshold I'll go with Formic Pro or Swedish sponges soaked in oxalic acid and glycerin. All plans are subject to change in the future.

July Checklist

-  Make sure your bees have a good supply of water. Use small pans or if you have many hives, use a child's swimming pool and float wood or pieces of carpet on the water for the bees to stand on when hydrating.
-  Make sure your hives have adequate ventilation.
-  By the end of July, you should be ready to harvest honey. If this seems early, keep in mind that colonies don't gain much harvestable weight after the end of the month.
-  Importantly, your bees will fare much better in winter if you complete your Varroa mite treatments before mid-August, and many treatments cannot be used with honey supers on the colony.

Cowlitz Beekeepers Association

Monthly Meeting June 17, 2021

- Meeting came to order at 6:00 p.m.
- 31 people were in attendance.
- Go 4th Parade - people are needed to help decorate the float at 10:00 a.m. on July 2nd. Parade is on July 3rd; volunteers are needed to walk in the parade or ride on the float to hand out candy. Please contact Kathy Scott. Her phone number is on the 1st page of our newsletter.
- Linda Zahl would like volunteers to help teach children about honeybees in St. Helens, Oregon. Please contact her if you are interested.
- Our guest speaker tonight was Dr. Samuel Ramsey. We learned through his research that the Varroa mite feeds on the fat tissue of the honey bee. If you would like to donate to his research, go to: ramseyresearchfoundation.org. There was a question and answer time following his presentation.
- Our guest speaker for our July 15th meeting will be Dewey Caron at our regular time, 7:00 p.m.
- Meeting adjourned at 7:59 p.m.

Minutes taken by Zenobia Scott, Secretary

Out in the Bee Yard

Bill Holmes

Last year and then again this year I've had unexplained queen losses. Though this year was less traumatic. Two hives with new queens and laying well became queenless. One hive that had swarmed and produced a new queen who was doing fine is being superceded. That worked out for one of the queenless hives as I gave it one frame with 2 supercedure cells. I left the superceder colony with 1 cell so they can replace her for no apparent reason.



My 3 Bait hives caught one swarm. I usually catch more. I have neighbors who are beekeepers who caught more. That surprises me since I believe my bait box presentation is quite good, and they merely neglect to clean up deadouts which then fill up with bees much to their surprise. I usually give these catches away, but I decided to keep this one since they nearly filled 4 no foundation frames with comb in 4 days. I felt they were special but moving them 110' to the apiary is an issue. I have, in the past, moved them a couple miles for a few weeks and then moved them back. This time I chose the 3' routine. First, they were up on the side of the shed so it took a couple days just to lower them down towards ground level. After they were down I set them up on a 2 wheel dolly for the trip. Since they were located near a shed and a tree, I took it very slow since those were quite visible landmarks. Once I got into the open, I pressed the throttle to 6' even 10' twice per day. It took a week and I lost a few bees who insisted they lived by the shed.

I do the honey extraction the first week of August and it's a family event. They come from Cottage Grove and Woodinville, and this year from Phoenix too. It turns a long hard job into a fast and fun event. There are issues that I can talk about since they will never read this. They are not well trained, my fault since I am usually busy. It's hectic and everyone trades off so they tend to be self-taught. Problems include overflow from the bucket catching the honey from the extractor, unbalanced extractor, and tearing cappings off along with the cells all the way to the foundation. I gladly put up with all of it and am thankful for the help and joy. This year I'll be trying 2 new uncapping devices in hopes of keeping frames looking presentable to the bees. The first is just an

electric carving knife. I am sure it will work great, at least for a while. I'm not sure how hours of carving caps will impact the motor, and if the blades start getting gummed up it could be the end of that. The other device is an electric uncapping plane. They are expensive but the videos I've seen look really good. At the supply houses they are \$150 or more plus shipping. I found on ebay you can get one much cheaper from China. But it takes over a month to get it. Since I was looking in May I had time. I spent \$69 and requested they right handed 110volt USA plug version. It arrived as left-handed with European plug and 250volts. I contacted the seller who never responded, but ebay refunded my money. That was nice, and I have a free uncapper I can use in Europe. I turned to the supply houses and found Lappe's Bee Supply had the best price on a Maxant uncapping plane along with free shipping so I ordered it. It arrived in 4 days. It was 110v but it was left-handed. I sent them an email and they responded quickly wanting a picture of the code on the box. The code had a LH in it. That was last night so I'm waiting to see how that goes. In the picture of the two they are pretty similar, but the Maxant (right) is heavier duty. I really want a right-hand version before honey harvest. Bill



Cell Groups

CBA members should all know that you are assigned a geographic cell group. We have 7 areas and each has a leader. These are your neighbors who have bees and can answer questions, share ideas, and help each other. They are about giving and receiving. During covid restrictions getting together was not possible. I'm the leader in the Far West and we had our first meeting in June. Not a large turn out but it was still nice. Robert Norris in the North cell invited his group over, but the response was disappointing. The groups are especially important for our new beekeepers. If you are experienced, then we need you to help make beginners successful. I don't have activity reports from the other groups. If you are unsure of your group and would like to know who your leader is then send me an email and I can get you in contact with them. Contact Bill at cowlitzbeekeepers@gmail.com

T-Shirts

It's been a few years since we ordered CBA T's. The person that handled that has moved to Oklahoma along with the design. If you have any artsiness in you, we need you. Please Let me know if you would like to help us out with this project.



Asian Giant Hornet

There has been one confirmed sighting of an AGH near Marysville, WA in June 2021. A resident found the specimen and reported to

WSDA. It was a dried-out drone so it is unlikely that it was alive in 2021. Genetic testing and its coloration confirmed it was not related to the hive destroyed in Whatcom county last year. How it got to Marysville or where it is from remains a mystery, but they are adding traps in the area.