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The Official Magazine of the NCSBA



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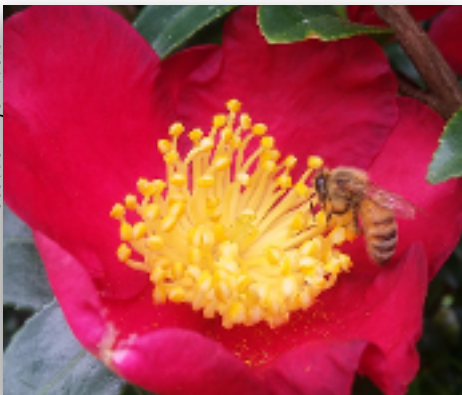
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~ Since 1917 ~

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ON THE COVER:

Bob Cole
1927-2020

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Photo: Caine Lankford 2017

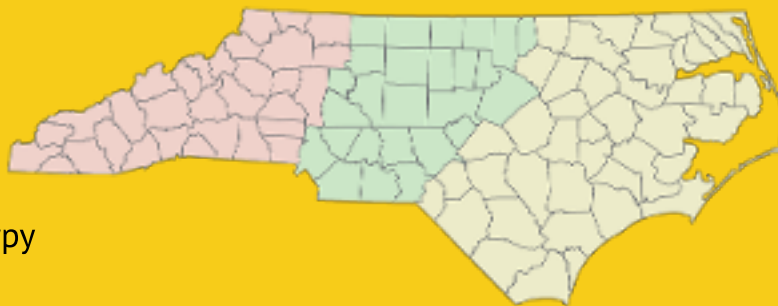
North Carolina State Beekeepers Association



The mission of the NCSBA is to advance beekeeping in North Carolina through improved communication with members, improved education about beekeeping, and support of science enhancing the knowledge of beekeeping.

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*Contact information for the NCSBA Officers and Regional Directors
can be found in your Yellow Book Directory and on the NCSBA website www.ncbeekeepers.org*

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From the Bee Buzz Editors:

Bee Buzz Story Submission Deadlines: Spring : Jan 7 - Summer: Apr 21 - Fall: July 21 - Winter: Oct 21

We enthusiastically accept article and photo submissions! Please send us your articles and photos of news and information you'd like to share about your local association's latest events, successes and failures, a biography on a long-standing NCSBA member you would like to honor, or a young beekeeper you'd like to see highlighted. All honey bee-related topics will be considered for publication. While we regret that we cannot always include every submission, we will do our best to print as space permits. Submit your article in .doc or .docx format. Photos should be high quality jpg or tiff format. Please include a caption for photos. Do not embed captions in your photos or photos into your news article, but submit these as separate files. If you do not have access to a computer, we will accept typed or clearly handwritten articles. Mail written submissions to: *Bee Buzz* Submissions PO Box 1771 Pittsboro NC 27312.

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NCSBA Communications - Stay Informed!

Beekeepers, please reference the text portions for the following announcements at www.ncbeekeepers.org

2/3/20	Spring BEES Classes Announced
2/6/20	Ed Speer Named New CHPP Chair
3/13/20	Queen Rearing Workshop Announced (Canceled)
3/20/20	Message from NCSBA President



Message From The President

by Paul Newbold NCSBA President

I hope all of you are doing well and that the worst is behind us. I am writing this article in mid-April and it's scheduled to be in the summer BEE BUZZ, which should be in the mailbox around June 1st. This has been a very trying time for all us. Hopefully summer is here and the world is looking a little brighter. The Board of Directors of the NCSBA met in early April and decided to cancel our summer conference. Because of how little we knew at the time, several factors were discussed. Some things we did know included the fact that the campus at Blue Ridge Community College was closed, as were all schools and universities at that time. Most were starting to plan summer sessions using only online classes. We had no guarantee that if we moved forward, the school and facilities would be open. The speakers that were on the agenda had already advised us that they were not planning to travel during the summer and would not be attending. Vendors also were reluctant to commit, not knowing if we would have enough attendees with all the unknowns we might still be facing. It was a difficult decision, one hopefully we will never face again, but it was a unanimous consensus by the Board of Directors.

During the summer we will be holding elections for officers for next year. We have the electronic process in place, and you will be able to vote via an electronic ballot. We also plan to have on the ballot some updates to the Articles of Incorporation, and some minor changes to the Constitution and Bylaws. An email will be sent to each of you beforehand, prior to the vote, so that you have time to review items to be voted upon.

The State Fair in Raleigh is still planned as of this writing and we will once again be looking for chapters to sponsor a "Day at the Fair". This is where you work together with friends from the same chapter on the same day. Those schedules will be on a first-come basis and hopefully all days will be filled this way. If your chapter is willing to help, call or email me with the day you would like. The fair runs from October 15 thru 25. We will need coverage each day. This is one of our major fundraisers and supports the NCSBA in many ways. We do need your help to make it work.

We are already working on the spring conference, which will be held again in New Bern on the first weekend in March of 2021. We had 147 responses to the online survey from those that attended last March

and some of the results show that most everyone was satisfied with the facility and the location. A lot of concerns were raised to the crowded conditions in the main hallway with vendors on both sides and limited walking space. We will be making the schedule a little more flexible with more time between workshops and speakers. Video workshops also got a mixed review. Some loved having speakers we could not have otherwise, and others want them in person. This could be an age barrier, as I fall in the latter category and like them in person. I still haven't caught on with all of this new technology! We're also looking at workshops with more hands on, or something that will provide the feeling that this is something "I can take back home". I can assure you, all surveys were read and comments were distributed to all the board members for them to consider. We are entertaining the idea of doing something on Friday evening to make sure some of the awards that were to be awarded during the summer can be done in the spring. Nothing definite, but we are looking into this. Door prizes are given at the end of extended breaks in the morning or afternoon. They were originally designed to get people back in the main room. That's why the rule has always been, "You must be present to win".

A special thanks to Dr. Tarpy at NC State for doing the Apiculture Online in April and May. It gave us all a chance to talk a little beekeeping and keep up with what is happening in the word of beekeeping. The NCSBA has a Zoom video conferencing account for use by our chapters. For many it was the only way to have any type of meeting in April and May. It is surprisingly easy to use, even I was able to use it! If your chapter would like to take advantage of this online meeting platform, let us know and we'll gladly assist in getting you started.

I hope this issue finds you well. It is difficult to write not knowing the future or having no idea in mid-April what the word will look like in June. Looking forward to seeing you at the fair and again next spring in New Bern.

-Paul Newbold, President, NCSBA



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BeeFeeders

North Carolina Pollinator Plants

by: Ulana Stuart, NC State Extension Master Gardener Volunteer

Every year I find a gap or hole somewhere in my garden from a plant that didn't return after winter, or was significantly reduced in size by deer predation. North Carolina summers are hot and without dependable rain so save your perennial plantings for the fall. However, summer is a great time to plant annuals that will fill your bee feeding needs. You should be able to find annuals and tender perennials for a reasonable price at many plant retailers. I plant annuals listed below in large 24-inch pots and planter barrels so that I won't have to worry about watering. These pots easily provide the drainage that these drought tolerant plants thrive in. Here are a few annuals that should attract your bees:



Photo: Susan Strine

Salvia leucantha 'Mexican Bush Sage'

Mexican Bush Sage or **Velvet Plant** (*Salvia leucantha*) is considered to be a tender perennial in North Carolina meaning that a hard frost will kill it. They are spectacular in the late summer garden when there are fewer blooms to attract your bees. They are bushy plants that grow to about 3-feet tall with 3 to 6-inch, lance-shaped leaves. Their beautiful velvety-looking purple and white flowers (or sometimes just purple) form long spikes. It is very low maintenance with no deadheading necessary. They prefer full sun but will tolerate up to 2-6 hours of full sun producing fewer blooms. *Salvia leucantha*, like all salvias, performs better with some drainage. With good growing conditions they produce a lot of pollen and nectar.

Texas Sage (*Salvia coccinea*) is considered to be an annual where winter temperatures get below freezing. It is about 1 to 3-feet tall with white or red flowers on terminal spikes. The toothed, oval-shaped, medium

green leaves are 1 to 3-inches long and wide. It produces a good amount of large pollen grains and even more nectar. It likes full sun best but will flower even with 2 to 6 hours of sun, though there will be fewer blooms. As mentioned above, drainage is important in order for the blooms to have a reasonable amount of pollen and lots of nectar. Some varieties available are:

'Snow Nymph' which has white blooms; 'Summer Jewel' provides pink blooms and 'Coral Nymph' has salmon and white blooms. A final bonus to keep in mind is that all salvias are deer and rabbit resistant!



Photo: thompson-morgan.com

Salvia coccinea 'Texas Sage'

Purple Heart (*Tradescantia pallida*, formerly known as *Setcreasea purpurea*) is a somewhat showy, trailing, annual plant whose winter survival depends on what part of the state you live in. On the coast, it may overwinter reliably in sheltered places. It is also frequently used as a low maintenance, medium growth rate groundcover in the piedmont and in the mountains. Many houseplant enthusiasts will recognize purple heart as an old-fashioned tough houseplant. You can take 4 to 5-inch cuttings at the end of the growing season and just put them in water. When enough roots form, pot them up in plain potting soil (no added fertilizer) so you can overwinter them as houseplants. You will have bee plants for next year's growing season!

In full sun with some drainage, purple heart grows 1 to 2-feet high with a 1 ½-foot spread. It has 2 to 3-inches long, dark purple leaves that are somewhat hairy and lance-shaped. It can also tolerate partial shade with between 2 to 6 hours of sun but that will affect the number of blooms. Once established, pinch the growing

Continued from Previous Page

tips back to encourage the plant to fill in. The small star-shaped pink flowers last only one day but really stand out nicely against the dark leaves. The flowers produce both medium-sized pollen grains and nectar. And finally, it is deer resistant! I have seen a raised concrete planter of purple heart in front of a restaurant off a busy street covered with honey bees during a late fall afternoon. If you have the space to plant these bee feeders your, honey bees will thank you with honey and winter survival.



***Tradescantia pallida* 'Purple Heart'**

For more information on these plants and many others, please visit our wonderful new North Carolina Extension Gardener Plant Toolbox website at <https://plants.ces.ncsu.edu>.



NCSBA Library Update

As of March 20th, the Wayne Community College Library is accessible. You can continue to check out materials as usual by going to the NCSBA website, Resources tab, NCSBA library tab, and following the instructions.

Paul Newbold met with the Neuse Regional Beekeepers and recommended that folks watch an old movie. It's "Keeper of the Bees" and was released in 1935. I went on YouTube and watched it. It's a very good movie that also gives a look into life 85 years ago. Watching it got me thinking about other movies in which honey bees play an important role. Ulee's Gold (1997) and The Secret Life of Bees (2008) came to mind. Our own NCSBA past-president Julian Wooten was the beekeeper (wrangler) for The Secret Life of Bees, assisted by Casey Grimes and the movie was filmed in North Carolina. Fun stuff!

While the NCSBA Fred Deer Library has mostly educational DVD's, there are some lighter titles. Go to the NCSBA website, Resources, and Library to see what captures your interest.

Bob Kemper, NCSBA Fred Deer Librarian

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In the Apiary: Summer 2019-20 in North Carolina

by Nancy Ruppert, Apiary Inspector, NCDA&CS



Some of what may be seen in the apiaries this year is the impact of the novel coronavirus, which has hit so many people in so many ways. The radical economic impact of widespread shutdowns will likely be felt for months and perhaps years to come in a way that touches all beekeepers in one way or another. While some may have to delay their plans to acquire bees, others may learn even more intently about honey bee survival so that they aren't spending more money (that they now don't have) to replenish hives that died out or left home due to mismanagement or swarming. Other new or potential beekeepers had to interrupt their learning—whether via beekeeping classes, local meetings, or hands-on mentoring/field days—in order to keep everyone safe, and therefore may struggle even more than usual to help their bees prepare for and survive next winter. (Increased usage of online tools, such as Zoom, is helping ease this.)

However, there are several positive elements to the outlook for beekeeping in NC this summer:

Weather has been more perfect for nectar and bee population buildup this spring than in any recent spring, so honey harvests in healthy apiaries have potential to break records. The bounty of pollen seemed to contribute to overall healthier hives going through spring into summer. (Remember that nutritious pollen is a primary building block for honey bee immune systems.) Thankfully, honey bees are not affected by coronavirus and seem oblivious to its effects. Foulbrood in 2020 apiaries has been relatively uncommon. There are plenty of people now who have acquired a state-issued permit to sell bees in NC, which at some point requires inspection by a state apiary inspector and therefore helps limit the risk of sick or Africanized bees being bought and sold throughout NC. (To see the permit list: <https://tinyurl.com/ncapiaryinsp>)

Summer can in some ways be the most intense season for beekeeping: it can get very hot; there's usually a dearth of nectar, which may result in hungry or even starving bees; the heat and nectar shortage sometimes makes bees more unfriendly, requiring more sting protection (a suit that makes a hot day sizzling); pest pressure tends to peak during this season, especially hive beetles, varroa mites, and wax moths. Through observations in other apiaries and some hard lessons in my personal beekeeping, I've learned a few things that make summer beekeeping more tolerable. (Note: it is NOT a reasonable option to simply bypass

beekeeping management for the summer, if you want your bees to live through the winter!)

Personal safety is paramount. Excess heat and other possible emergencies warrant preventive measures (plenty of liquids, electrolytes, protection from bee stings) as well as some method of summoning emergency assistance if needed.

Don't rob too much honey from the hive, no matter how beautiful or tasty it is. Sugar water provides needed carbs, but has very little other nutritional value compared to nutrient-rich honey. I have seen a significant difference in hive health regarding this. But do select and harvest your preferred honey before late August, when the bees start consuming more of it.

Keep water sources available for your bees. Bees in the neighbor's pool tend to cause a stir.

Don't wait too late to address pest problems. Pest populations and/or damage can increase explosively during the entire summer. The "too little, too late" method of pest control can kill your bees. Consult *reliable* sources for more details. We must do this to save our bees.

With these issues handled well, we might have more time to enjoy summer's other activities!



Photo: Stan Frick

New beekeepers Jeanette McGroarty and Paul Lawless extracting honey for the first time



Master Beekeeper Program Reflection and Objectives

by Doug Galloway Master Beekeeper Program Chair

With the Covid-19 virus making life outside the bee yard a challenge, it is a comfort to be able to be immersed in the routine and responsibilities of stewarding our honey bees. Take a moment to “Reflect” on the origins of the NCSBA Master Beekeeper Program and recognize that the “Objectives” starting in 1982 remain viable and consistent in today’s Program.

In celebration of the 80th anniversary of the NCSBA, James F. Greene, Jr. and Dr. John T. Ambrose prepared a publication titled “A History of the N.C. State Beekeepers Association (1917 – 1997)”. To view this publication, look on the NCSBA website, click “About” then click “History”. A link to the publication is about half way down the page highlighted in green. On page 83, Dr. Ambrose shares his vision for the N.C. Master Beekeeper Program, a vision we adhere to today.

In the fall of 1982 the N.C. Agricultural Extension Service, in conjunction with the N.C. State Beekeepers Association, introduced the N.C. Master Beekeeper Program. The program was designed to meet a two-fold purpose: one purpose was to provide a suitable educational program in beekeeping for the large number of North Carolina beekeepers which allowed for differences in beekeeping expertise, and the second purpose was to create a cadre of trained beekeeping volunteer who would “extend” the educational programs.

The N.C. Master Beekeeper Program is a four-step program with the following levels of attainment:

A. Certified Beekeeper *This is the entry level of the N.C. Master Beekeeper Program and, as with all of the program levels, the individual must pass a written and practical test. At this level the individual should be familiar with the basic skills and knowledge necessary for the beginning hobby beekeeper.*

B. Journeyman Beekeeper *Requirements for this second level in the MBP include a written and a practical exam as well as a minimum number of years of beekeeping experience and public service prerequisite. At this level, the individual should be functioning as a competent hobby beekeeper with the necessary skills and knowledge for moving into the areas of sideline or commercial beekeeping if he or she so desires.*

C. Master Beekeeper *Requirements for this third level in the Program are of the same categories as the Journeyman level, but they are much more stringent. At this level, the individual should be able to function as a sideline or commercial beekeeper if he or she so desires. In addition to the general aspects of beekeeping, the individual*

should also be knowledgeable in the related areas of bee botany, the business aspects of beekeeping, honey and bee-product judging, bee behavior and other specialty areas.

D. Master Craftsman Beekeeper *This is the fourth and highest level in the N.C. Master Beekeeper Program. Requirements again include a written exam, practical test, years of experience and public service prerequisites. The qualifications for this level will be comparable to those found in individuals who have completed a graduate program in apiculture. At this level the individual should be generally knowledgeable of all the relevant areas of beekeeping as well as being a specialist in several selected areas. Only a few individuals are expected to reach this highest level in the N.C. Master Beekeeper Program.*



This fourth level of the N.C. Master Beekeeper Program was updated as candidates came forward to challenge themselves and serve their fellow beekeepers. Dr. Ambrose clarified these changes, writing them in the Appendix page C-2, of the “A History of the N.C. State Beekeepers Association (1917 – 1997)”. Those updates eliminated the written and practical test in favor of a Master Craftsman Research project and an Oral Exam. Dr. Ambrose at this time again reiterated that “*The apicultural qualifications at this level are comparable to those found in a graduate level program in apiculture at a major United States university.*”

This process of clarifying and qualifying the requirements of each level of the Master Beekeeper Program is ongoing, as it should be. With changing times, we have seen the program move from a joint effort between the N.C. Agricultural Extension Service and the NCSBA, to a program sustained solely by the NCSBA. To support the MBP, our NCSBA county chapters have taken on a significant role of educating beekeepers at each level while offering them an opportunity to exchange ideas and experiences.

As part of this ongoing process, the MBP committee along with the support of the editors of the *Bee Buzz*, are asking future Master Craftsman candidates to write an article for publication in the *Bee Buzz*, about their completed Master Craftsman research projects to

Continued on Next Page

provide information, knowledge, experience and guidance to the NC beekeeping community. The committee reached out to many of our current active NCSBA Master Craftsman Beekeepers asking about their experience as they pursued the highest level of the MBP. Their input was gratifying and consistent. Each spoke of the challenges they faced along with the education they gained from the process and the results. Most pursued having their research results published in different media which contributed to this action by the MBP committee.

There is much about beekeeping that can be learned from the variety of media sources available today. Many of the beekeeping supply companies offer regular email newsletters. Both American Bee Journal and Bee Culture offer frequent emails providing insights into activities, research and experiences of beekeepers. At no charge, the Agricultural Research Service,

www.ARS.usda.gov, offers email articles, frequently about research concerning or related to apiculture. Most supply stores have a bountiful supply of beekeeping books available and are happy to mail them to you, some with no shipping charge. Northern Bee Books, though located in the UK, has a remarkable assortment of bee books and the shipping is surprisingly reasonable. During this time of social distancing, take advantage of these opportunities to expand your beekeeping knowledge.

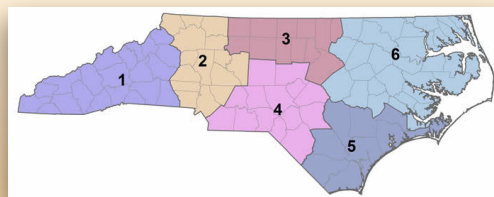
Presently, the MBP committee has scheduled testing for Saturday, October 24, 2020, in Burlington, NC. We will not open registration for this event until sometime in July, subject to recommendation from NC regulators. Details will be posted on the NCSBA website when a final determination has been made.

Enjoy your bees and stay safe!



NCDA&CS Welcomes a New Apiary Inspector: John Harris

Zone 5



To those who have not met me I am the new apiary inspector for southeastern N.C. The counties in my area include Bladen, Brunswick, Jones, Carteret, Columbus, Duplin, New Hanover, Onslow, Pender, and Sampson. I consider myself one of those people that loves nature and the great outdoors. I grew up in Fayetteville and graduated college at UNC-Wilmington. I acquired my first beehives when I was twelve years old and have been keeping bees ever since. I've been a hobbyist keeper to a sideline beekeeper with around three hundred hives. When I started beekeeping, we didn't have tracheal or varroa mites. I served as an officer in the New Hanover County Beekeepers Association, as well as past president of the Cumberland County Beekeepers Association, for which I am currently a board director. I have also been a longtime member of the NCSBA. I enjoy sharing my beekeeping knowledge and experience with other beekeepers and prospective beekeepers. Apiculture is very important to agriculture in North Carolina and the United States for food and seed production. We have a diverse group of beekeepers in our state, from hobbyists to large commercial beekeepers. I look forward to serving our beekeepers and agricultural community.

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The New Frontier for Presentations

by Phil Uptmor Chatham County Beekeepers



Most chapter associations face a

similar dilemma- finding a good speaker on a monthly basis. I faced this issue when I was the vice president of Chatham County Beekeepers Association (CCBA) and I know that this is an issue, especially for remote counties. We are very fortunate in North Carolina to have a large pool of beekeepers, an excellent group of apiary inspectors, and access to renown university apiculture researchers. How can a local association bring in new and popular speakers without breaking the budget? We faced this question in Chatham County and we were able to find a solution that not only opened doors for future meetings but gave the speaker an alternative avenue for speaking to other groups like ours without the expense and time of traveling.

What exactly is this new frontier? Businesses have been using remote meeting video conferencing tools for years as a way to save travel costs and reach larger audiences. I was very fortunate to have experience from my job conducting training using a popular web conferencing application and there is no reason the same principle cannot be used by county associations to schedule speakers they would otherwise only see at state or international conferences. This technology is not without its hiccups, but the reward of bringing in a different caliber of speaker is well worth it!

Our experience started with a conversation with the CCBA board and vice president asking if a remote presentation was even possible, and what it would take to do this. We also needed to find a speaker that was agreeable to working with us on making this successful. We were able to find a solution on both fronts. First, we needed a location that offered high speed internet, had the latest technology for audio and video solutions, and preferably fit in our budget for a meeting space. Our vice president Julia Kopacz worked with Chatham County Extension Agent Debbie Roos to reserve a meeting space at the Chatham County Agriculture and Convention Center. Then, she found a very agreeable and popular speaker, Dr. James Tew, who was pretty excited about doing a remote presentation.

The presentation went smoothly and was well received by our association. We learned several lessons: perform dry runs until everyone is satisfied and comfortable with the format; use a remote presenting application that is easy to use for both the presenter and the attendees (we found Zoom to be the easiest to use and they also offer a one-month free trial); and

make sure both parties know what the plan is for both the presentation and the question/answer section.

Our experience was so positive that we have already booked another remote presentation this year! The feedback we received from the participants was overwhelmingly encouraging, too. The ability to bring high-profile speakers to a membership that may not regularly attend state conferences is worth the experience of trying something new. My conversation with Dr. Tew after our presentation affirmed our belief that remote presentations have a place in our association meetings. While they will not replace on-site speakers for all meetings, remote presentations have a place if associations are willing to try something new.

This article could not be more prescient as it was submitted before the stay-at-home orders resulting from the Covid-19 crisis were put into place. With all public gatherings shut down for the foreseeable future at the time of this writing, chapters must evolve alongside everyone else for conducting business during these unprecedented times. Remote video conferencing has made it possible for many organizations, businesses, schools, universities, virtual medical care, music and art classes, and even something as unlikely as sports instruction to proceed, in spite of current events. Chapters with the resources to do so, should consider making remote presentations an occasional option to on-site presentations when it is necessary to do so.

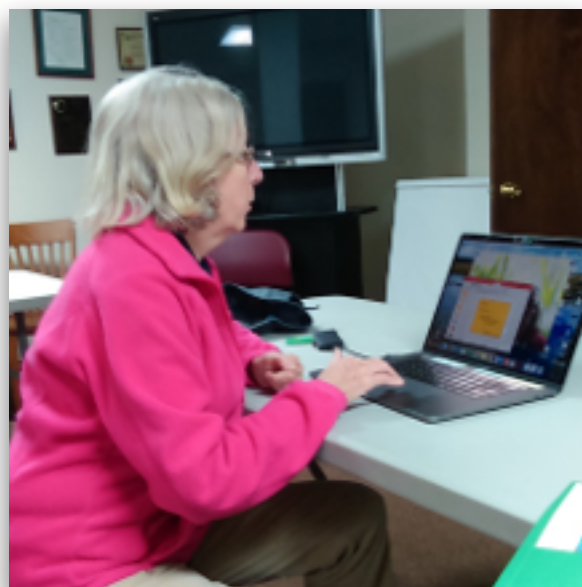


Photo: Jackie Hough

Shannon Newton, Scotland County Beekeepers Member, setting up a video conference for her club



“Think I find a way 4 us 2 meet. Cn U call?”

by Jackie Hough Scotland County Beekeepers

Settled in my favorite chair last fall on a cool, mid-November morning, I was just getting an early start on my winter ‘reading pile’ when I heard a soft ping. My phone, announcing the arrival of a text message.

Isn’t technology wonderful? A message comes in, and a message goes out. Even hours later, we can pick up a conversation where we left off or respond to a question after we’ve had time to look for the answer.

“Jackie, can you do your “Plants and Flowers” presentation for our class on March 5?”

It was my long-time friend and bee buddy, Hugh Madison, a North Carolina Master Beekeeper, plotting the course of a bee school that he and fellow Moore County Beekeepers member Dwight Rickard (a medical entomologist) teach for Sandhills Community College in late winter each year. At 84 years young, Hugh is still in the thick of bees, beekeeping, and sharing his knowledge with anyone who wants to learn about the beautiful little creatures we all love so much.

“No, I can’t. I will be in New Bern for the Spring Meeting.”

“How ‘bout March 12?”

“Yes, I can do that.”

“Good. You’re on for March 12.”

“Okay, thanks. It’s on my calendar.” Little did either of us know...

On February 6th, the start of the Sandhills bee school, skies were dark, and heavy weather was on the way.

“Jackie our class was cancelled tonight due to a tornado watch. Can you do your program March 19?”

“Be glad to.”

“Thanks.”

And February 26th...

“Jackie our class was canceled last Thursday due to weather, so everything has been moved forward. Will you be available on March 26 to do your class?”

“Yes, I can do that.”

Thankfully, the weather didn’t dampen our NCSBA Spring Meeting – it was a great opportunity to catch up with friends, visit the outstanding array of vendors, and hear some of the latest research about bees. A new feature of the meeting this year was the offering of live video learning opportunities featuring Dr. Jim Tew, Jerry Hayes, and others. Aside from the obvious benefits of these presentations (no travel for the speaker, no travel expenses for NCSBA), Dr. David Tarpy – NC Extension apiculturist, NCSU professor, and NCSBA education coordinator – spoke to attendees to share details on many more benefits of ‘Electronic Media in Beekeeping and Beyond’.

Not long after the Spring Meeting ended, though, the headlines were buzzing with a new acronym – COVID-19 – and a new threat. And then it was March 19th, bringing another text from Hugh.

“Jackie, I don’t have a clue about what is going to happen with our class. Right now, it is canceled. Will keep you informed.”

When the coronavirus pandemic came to our shores, our world was upended. Phrases like ‘social distancing’ and ‘stay-at-home orders’ were added to our vocabularies, and people were searching for ways to connect. Let’s face it – helpful as they are, email and text messaging only take you so far...

March 27th. Ping. “Jackie will u call me when u get a chance? Need to talk to u about our next bee class.”

It was Hugh, reaching out once more, offering me the opportunity to present my bee forage plants class to the bee school via Zoom on April 2nd.

I’m not an expert in any of the videoconferencing systems, or a cheerleader for one over another. Zoom is what we used, so I’ll share a little about that, including some background, and how beekeepers can Zoom in to use this very useful tool to share their knowledge of bees.

Zoom has been around for 9 years. With the arrival of the COVID 19 pandemic, however, Zoom – with its reputation for being one of the most user-friendly videoconferencing platforms available – quickly expanded beyond corporate and work-from-home audiences. Over a half-million people downloaded the Zoom application on a single day in March of this year alone. With this overwhelming burst of activity came

Continued on Next Page

the exposure of several security issues; one of the more frequently noted, called “Zoombombing”, can result in hackers accessing presentations and putting inappropriate or malicious content of their own into the middle of your carefully created Zoom presentation.

In response, the company has made significant strides in resolving the security issues, and a number of user protections have been instituted by Zoom. On an individual basis, users who have become familiar with the Zoom platform have studied the options on the site to fine-tune their handling of the application to create a more secure experience for their audiences.

In his April 21st update emailed to members, NCSBA President Paul Newbold noted that the NCSBA has a Zoom license, available for use by NCSBA chapters (upon submitting a reservation to NCSBA membership secretary Todd Walker at membershipsecretary@ncbeekeepers.org) and that several chapters have begun to use videoconferencing to conduct meetings during the stay-at-home order.

With Dwight’s tech skills in play, it was easy for me to give my presentation to the bee school that he and Hugh conducted. If you’re thinking of giving a presentation for your club, are you comfortable using a video conference platform? I wasn’t, so I turned to Shannon Newton, our Scotland County Cooperative Extension agriculture/horticulture agent – who also happens to be a beekeeper and member of our

Scotland County Beekeepers – to help me get set up for a presentation to our club.

“There are a lot of ways to provide security for a presentation,” Shannon explained. “Cooperative Extension uses individual emails to send invitations – I never post an invitation on a website or other public place. Invited attendees have to log in using a password that’s sent to them, and I remind people not to forward the email to anyone else. Once they log in, they’re in a virtual ‘waiting room’. As the moderator of the presentation, I’m the one who can let them into the presentation. And once the presentation is in progress, I can lock it to prevent uninvited individuals from gaining access.”

Clearly, Zoom has risen to the challenge of a tidal wave of new users. A visit to the Getting Started page <https://support.zoom.us/hc/en-us/categories/200101697> offers details, including a ‘quick-start guide’ for new users, <https://tinyurl.com/sn38bto> where you’ll find all the how-to information you need to set up an account, sign in, schedule your first meeting, and more. There are video tutorials, instructions on how to invite others to join your meeting, tips on crowd control (so everyone doesn’t end up talking at once!) and how to move into the role of meeting host.

Most bee schools have ended for the season, and new beekeepers need information. Videoconferencing is another tool in the technology box to help us all learn more about our bees.



Six-year-old Ava Aviles is all smiles while demonstrating a sugar roll test for varroa mites during an intermediate beekeeping class hosted by the Montgomery County Beekeepers Association in fall 2019.

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The telling of the bees is a traditional European custom in which bees would be told of important events in their keeper's lives, such as births, marriages, or departures and returns in the household. If the custom was omitted or forgotten and the bees were not "put into mourning" then it was believed a penalty would be paid, such as the bees leaving their hive, stopping the production of honey, or dying. The custom is widely known in England, but has also been recorded in Ireland, Wales, Germany, Netherlands, France, Switzerland, Bohemia, and the United States.

-Wikipedia



Bob Cole

April 25, 1927 – February 6, 2020

Bob Cole was certified as a Master Beekeeper by the Eastern Apicultural Society of North America. He was a professional beekeeper, seller of bee books, and a teacher of beekeeping. He served as a volunteer for foreign aid programs to developing and third-world countries, assisting beekeepers in 20 countries. Bob received three presidential volunteer awards for his work overseas. He was also awarded North Carolina's highest civilian award, the Order of the Long Leaf Pine, in 2004.

Bob was a veteran of World War II and Korea. He was a member of the 82nd Airborne from Fort Bragg, North Carolina. He joined after he graduated from high school in 1943 at the age of 16. He served in Europe from South Africa, through Italy and Germany, ending in England. He was a part of the force that jumped in behind enemy lines the day before D-Day at the age of 17. He served in the Netherlands as portrayed in the movie "A Bridge Too Far". He then was sent with the 82nd to stage in the Philippines preparing to jump into the Tokyo airport. After occupation duty, he was in the reserves and enrolled at the University of North Carolina, where he was pulled out of class to go to Korea. He received an honorable discharge in 1959 with the rank of Master Sergeant.

He also studied beekeeping at NC State University and at the Ohio State University.

Bob has had a number of interesting jobs in his long life. He was a stock car driver and raced with such greats as Cale Yarborough and Junior Johnson. He spent several years working for RCA as a salesman and then for Chet Atkins in Nashville setting up studio recordings and eventually traveling in the south with recording artists like Al Hirt and John Denver. He acted in and assisted with two movies made in North Carolina, "Where the Lilies Bloom" and "The Last American Hero". He also installed electronic carillons throughout the US and Mexico before taking on a full-time career as a beekeeper.

Bob passed away February 6, 2020 at the age of 92. (See cover photo)



Letters From Hawley Prindle Character

I don't know if any of you are having trouble finding things? I started looking for my old bee supply catalogs to compare prices for the cost of new equipment. Bernice also helped me check some online supply equipment people.

I could not believe \$190.00 for a package of bees! Last year Bernice got in her mind that our beehives should have character. So I bought several garden hives. I found a dealer in Ohio called QRC who makes hives that are so different from those listed in other catalogs.

I was intrigued with something they sell called the H Hinged cedar shingle roof. I like telescoping top covers and I make my own. Give me a picture of something and I can build it. Their catalog really opened up Bernice's eyes. I did not imagine that the top cover of a hive could give a bee hive character.

Bernice wanted something built like a church roof. Okay, I wanted to keep her happy. But she also wanted something that looked like a lighthouse and maybe a barn. I had pictures from the catalog to give me an idea of how I should go about building a few of these. I was not going to spend \$165.00 for a top cover!

The simple garden hive gable roof was easy to copy. Anyone with a saw could cut out the pieces and nail the pieces together. Those expensive copper metal coverings really are not necessary – a piece of tin works just fine.

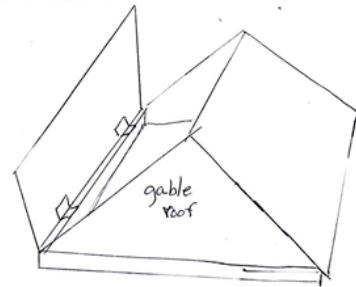
I decided one hive cover intrigued me. It was called the H Hinged cedar shingle roof top cover. Pretty much like a Langstroth. If you come up with an idea that is simple, people could build their own without paying for the idea. That hinged roof was an open gable style much like the garden hives. Imagine a hive cover that can store your smoker, gloves, hive tools and other stuff.

I might point out that once one starts building one of these things, a top cover can become heavy. I am going to assume that all of you know what a standard house roof looks like. The roof can be designed to have a low pitch or a very steep pitch. I like gable roofs, because a gable shape entails covering only two flat surfaces without any hips or valleys. To build one requires the two flat surfaces with a pitch and two ends. The end pieces of the pitch roof must extend to fit over the outside dimensions of the hive body.

A problem with a top cover like this requires someone

with the ability to lift it off the hive in order to examine the bees inside. Bernice gives advice but I do the lifting! Oh, you may ask about the hinges!

The cover has no way for the bees to enter the space used for storing stuff. It is completely enclosed on the bottom with a sheet of plywood. A drawing will help you understand its design more than all the words I could use to describe how I built mine. Would I build another – no. I only have one smoker and the roof is a bit of pain to remove from the hive.



The top two pieces are hinged to the two side pieces that make up the base for the top cover. A higher pitch allows for more storage especially for the smoker. I found all the materials to build this top cover from scrap wood. I did buy wood screws to put everything together and the hinges.

One note is the ridge that could let rain water into the inside of the cover must be made to overlap or in my case built with a ridge cover fastened to the right side panel after the shingles were nailed in place. I also included a small overhang to the roof. This serves as a stop when one of the top roof panels is opened to get to the tools inside.

My problem for 2020 is to talk Bernice out of that lighthouse top cover or the cover that has a church bell tower. She seems to think I can do anything.

2020 has started out on a real good note. My bees are doing great! My New Year Resolution is to get Bernice more involved in working the bee hives. She is all into selling our honey once she found out that some people were selling it for \$1.00 an ounce and she had been selling it for \$5.00 a pound. I even had a beekeeping friend tell me that my labor was worth \$15.00 an hour and he asked me how many hours in a year I work my bees. I am working for free and Bernice is handling all the cash. I am just thinking about how much I spent on those two garden hives I bought last year. Bernice has not sold a bottle of honey since she raised her prices to \$1.00 an ounce. I figure we have something like 1600 ounces of honey bottled in the back room. \$1600.00 has a nice ring to it.

Wolfpack's Waggle: Host-shifts and honey bees: lessons from COVID-19

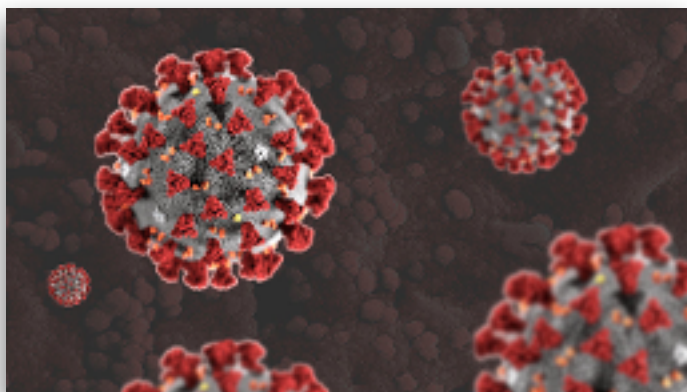
by Dr. David Tarpy

Department of Entomology & Plant Pathology, NC State University



This global health crisis has certainly hit us all like a ton of bricks. At the time of this writing (early April) we are still amidst our “social distancing” and mandatory University shutdown. Tragedies such as this remind us all of the important things in life, and while we love our honey bees, they are *way* down on the list of priorities, as family, friends, and loved ones take the only precedent with everything else a distance second. It is my fervent hope that everyone is—and will remain—healthy, happy, and safe.

I'm sure by now everyone has heard (probably more times than they care for) about how COVID-19 came to be. It's a coronavirus of the virus family Coronaviridae (so named because of its crown-like protein coat), and it is not endemic in humans. [By the way, while honey bees have plenty of viruses in the families Iflaviridae (e.g., Deformed Wing Virus) and Dicistroviridae (e.g., Acute Bee Paralysis Virus), they don't have any coronaviruses as far as we know]. What I haven't heard in the media, however, is the term 'host-shift,' which is the biological phenomenon when a parasite or pathogen “jumps ship” from one host species to another.



You see, most microbial disease agents (viruses, bacteria, fungi) have a difficult time counteracting the complex immune systems of their hosts, so both host and pathogen have to constantly re-adapt to develop protective measures and counter-measures of resistance, respectively. In doing so, most disease agents tend to specialize on a given host—at the cost of being able to infect other hosts. That's what makes host-shifting so rare (at least compared to within-species spread), but this is exactly what happened with SARS-CoV-2 (the specific virus that

causes the disease COVID-19). Horseshoe bats are the predominant mammalian reservoirs of SARS-CoV-2, but genetic sequencing suggests that an intermediate host (a pangolin, which is a scaly ant-eater-looking type of a creature in Asia) is how humans seem to have actually contracted it. Nonetheless, once the virus made this host-shift to humans, the ugly consequences have ensued.

There are three very famous host-shifts in honey bee parasites, and I outline them here in increasing order of importance and severity. In each case, the original host of each parasite was *Apis cerana*, the Eastern honey bee of Asia (compared to “our” *Apis mellifera*, the Western honey bee of Europe and Africa), and the co-mingling of the two species was facilitated by introducing *A. mellifera* to eastern Asia over 100 years ago (if not before) particularly after the trans-Siberian railway was constructed. The first parasite is *Nosema ceranae*, which is a microsporidian that lives in a bee's gut and one that you've likely heard of. This new species has all but replaced the original *Nosema* species in Western honey bees, *N. apis*, which was mostly a problem during winter confinement. The tell-tale symptoms of this “old” *Nosema* was the bees got constipation and diarrhea at the same time (their hind guts would get bloated, but they don't defecate in the nest, so they fly outside and litter the hive face with little fecal droplets). *N. ceranae*, however, seems to infect bees all year long, doesn't cause overt symptoms, and is pretty much found everywhere. It is highly variable, though, both within and among colonies; you can have some individual bees with high levels while other nestmates have few to none. Similarly, while most colonies have low levels, others have a lot, and a few have none.

The second parasite that made its host-shift from *A. cerana* is the varroa mite, *Varroa destructor*, and I know you've heard of this one since it's the primary management concern for all beekeepers in North Carolina. It actually shifted hosts to *A. mellifera* about 100 years ago in Asia, but it didn't start to rapidly spread globally (except for Australia) until the 1960s, being introduced to the US in the 1980s and into North Carolina in 1987. Like other non-endemic parasites, our bees don't have well-developed defenses to varroa, so their impact to NC beekeepers is tremendous. There are two types of honey bee colonies: those that have

varroa mites, and those that *will* have varroa mites. Our new mantra in the NC State Apiculture Program is that while treating for varroa (with synthetic acaricides) is optional, controlling for varroa (by whatever means) is not.



Tropilaelaps

The third and final *A. cerana* parasite is, luckily, not here in the US or North Carolina, and we hope it stays that way. It is known as *Tropilaelaps* (pronounced tro-po-LAY-lapse), and there are several species but the two main ones that can parasitize our bees are *T. clareae* and *T. mercedesae*. While the original host is actually the giant honey bee, *A. dorsata*, the intermediate host that passed it along to *A. mellifera* is, again, *A. cerana* (not unlike the pangolin being the intermediate host between bats and humans for SARS-CoV-2). Regardless, its global distribution has been slowly increasing over the last 50 years, but fortunately it has remained mostly within the tropics up until now. While about a third the size of varroa mites (still ovate but skinny rather than oblong), they scurry about the nest very quickly, are hard to detect, and they make varroa infestation look like a decaf latte; *Tropilaelaps* is actually quite good at controlling varroa mites—because there's no brood left for varroa to reproduce! This looming threat to beekeeping and the apiculture industry is a major reason why imports of live bees from other countries is strictly prohibited.

Now that our bees have these parasites, what can we do? And, what parallels can we draw from our experience with COVID-19?!

(1) We're told to frequently wash our hands to reduce the spread of the coronavirus. Bees can't wash their hands, of course, but they can exhibit hygienic behavior, which is what handwashing is all about. Bees with particular genes can detect varroa-parasitized brood then remove them from the nest before the next generation of mites matures, and it's been a popular trait fostered among many different honey bee breeding programs. So, the equivalent to frequent handwashing is to buy queens that have been bred for

hygienic behavior, if at all possible.

(2) We're also told to physically distance ourselves from others to reduce viral transmission within the entire population. This, too, is something that's impossible for bees within a colony to do; in fact, their social structure is exactly what makes Nosema, varroa, and *Tropilaelaps* so problematic for beekeepers. While we may not be able to control the sociality of honey bees, we can control the transmission *among* colonies. That is, if possible, try to space your hives well apart from each other. The close proximity of colonies in an apiary facilitates the drifting of foragers and especially drones, which can facilitate the spread of parasites and pathogens, so increasing the distance among the hives can dramatically decrease the likelihood of drifting. If you can't space them further apart, then consider other means by which you can reduce transmission, such as using robbing screens (particularly in the summer), painting your hive equipment different colors (so they can better discern their hive from others), and/or placing different patterns near the entrances (so foragers can learn what their front door looks like).



(3) Finally, we're asked to quarantine ourselves if we develop symptoms. Bees won't self-isolate (although they can purposefully fly off and never come back if they're infected, for the benefit of the colony—called social apoptosis), but as beekeepers we can impose that at the colony level. If you have a colony with a high Nosema load or varroa count, then put it into quarantine. Ideally, if you can move it to an isolated yard, that would be great, but it's not necessary. Instead, just don't move frames from infested colonies to other colonies, even if they're still strong, because you'll just be spreading the disease. Stay vigilant on the progression of the parasites and take control measures as necessary. Staying on top of parasite amplification not only helps you save your bees, it will help spread them to your neighbor's bees as well, which in turn helps the entire honey bee population.

Honey bees have been dealing with exotic parasites for decades. Incorporating some of the same strategies that we've been practicing for COVID-19 into our beekeeping operation can actually help them cope better and deter their spread. Like in a honey bee colony, there is strength in numbers, so if we all do our part, we can help make a difference for the greater good.

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American Beekeeping Federation

A Summary of the 2020 Conference

by Ettienne Nadeau

The American Beekeeping Federation (ABF)

is a national beekeeping organization working in the interest of all beekeepers, regardless of apiary size, as well as those associated with the beekeeping industry.

The ABF is also a voice for beekeepers concerning several legislative issues that affect the beekeeping industry as a whole. Some of the current legislative issues the ABF is focusing on include continued promotion in the health of honey bees and other pollinators, protecting the honey market from imported honey, addressing the effects of neonicotinoids on honey bees and the labeling of such products, working with the USDA on disaster programs / crop insurance for beekeepers, and further developing the temporary employment of foreign workers program (H-2A) in the United States as it affects the honey industry.

The ABF holds one annual meeting, alternating the location throughout the United States. The 2020 ABF Conference and Tradeshow was held in Schaumburg, Illinois Jan 8-11 with the focus, "2020 Vision of the Future." As always, the conference and trade show were packed with exceptional speakers, workshops and a well-supported vendor showcase. On display from the vendors were a wide array of products including forklifts, protective gear, varroa control, nutrition and supplements.

Over a period of four days, the ABF delivered outstanding speakers and workshops on various topics in the beekeeping industry. Below is a list of speakers and topics that those in attendance had a chance to hear.

Dr. Samuel Ramsey presented his research on the *Tropilaelaps* mite within the country of Thailand. Fortunately, this is not a mite that has arrived on American soil. The National Honey Board shared their efforts on educating the public on the benefits of honey and their marketing efforts which contributed to the industry. Healthy Hive 2020 Symposium provided an update of Bayer's and Project Apis m's funding of research projects on honey bee health. Some projects include screening for novel miticides, developing and testing a formic/oxalic polymer for varroa control and exploration of indoor storage of honey bees.

Dr. Jonathan Lundgren from Blue Dasher Farms spoke on current crop production practices. He explained how the agriculture industry has transitioned to

commercially grown crops, and such crops are a significant contributing factor to the loss of honey bees. To follow suit, speakers from the Pollinator Stewardship Council and Honey Bee Health Coalition provided updates on their efforts to help the health of the honey bee. Dr. May Berenbaum from the University of Illinois spoke on the difficulties that bees have had over the years with the various pesticides being used in agriculture.

The audience was also able to get involved on two occasions with an expert panel of beekeepers. This was a question and answer session on general beekeeping questions and apiary practices, ranging from the hobbyist to commercial operations. Afterwards, a second panelist session was formed with a new group of members and the topic of conversation focused on the future of mite control.

~ ABF Mission ~

The American Beekeeping Federation (ABF) will act on behalf of the beekeeping industry on issues affecting the interests and the economic viability of the various sectors of the industry.

Aside from speakers, the conference also offered a wide range of break-out sessions and interactive workshops. The workshops were broken down into four categories, designed for the small-scale beekeeper, side-liners, package and queen breeders, honey producers-packers and commercial beekeeper. A total of eight break-out sessions were available one afternoon and then an entire day was dedicated to interactive workshops, giving those in attendance twenty topics to choose from. Some of the topics included varroa mite control, skin products derived from beeswax, creamed honey, maximizing hive resources, beekeeping and homeschooling, pesticide incident monitoring, nutrition, value added products, queen rearing and what to expect from your apiary inspector.

The conference came to a close with its annual American Beekeeping Federation Banquet and coronation of the 2020 American Honey Queen and Princess.

For those interested further in the American Beekeeping Federation, additional information and membership can be found at www.abfnet.org.

Resonance

by: Alice Hinman Apiopolis Urban Bee Sanctuary



APIOPOLIS

I still recall my first swarm experience as ‘that time Jesus licked my cheek,’ in awe of the energy and brilliance and collective effort and direction of thousands of bees rushing from the hive and spiraling in the sun. I’ve had innumerable moments with the bees since then that I would describe in the same way. My first experience with ‘tanging’ or drumming down a swarm was one of them. This seemingly magical happening occurred at Spikenard Farm Honey Bee Sanctuary in Floyd, Virginia where, after four years of beekeeping and extensive study and research about natural methods, I was excited to be enrolled in the Spikenard Biodynamic Beekeeper Training Program. My classmates and I were gathered in the pavilion engrossed in Gunther Hauk’s teachings when the resident horticulturist, Mary, ran up and excitedly exclaimed “SWARM!” Everyone jumped up and rushed to the apiary. The swarm was spiraling high in the blue mountain air in an amber cloud at the sloped southern edge of the apiary. I’m not sure who began drumming first, one of the interns or Gunther or Mary, but within moments several of us had sticks in hand and were rhythmically beating them together or against a surface. Amazingly the bees slowly but certainly started to come down, soon settling on a low hanging branch of a small tree. One of the interns quickly gathered them in a swarm box and carried them away.



When I returned home from Spikenard, I researched drumming down a swarm and found numerous tales of old-timers, someone’s grandfather’s grandfather, using this method to capture swarms with many more responses of both doubt and belief. I’ve had several occasions to try drumming myself when I’ve returned home to the roar of a swarm of bees circling high in the trees, moving farther away from the apiary and out of reach. Each time I grabbed an empty five-gallon pail and a stick and followed the swarm, beating the side of

the bucket with a slow, steady rhythm and feeling vaguely like a bee witch. And each time I was both astonished and thrilled when the cloud started to descend, individual bees first landing on me, and then finally all of them clustering near enough to collect.

The final experience was with a small and very high secondary swarm. After several minutes of drumming, the bees began descending and landing on me. I thought they were going to gather on a close branch about 5 feet from the ground. I reached my hand in the air toward the leaves where a few bees had collected, hoping to tilt the branch and witness the queen joining them. Stunningly, the bees in the air began landing on my outstretched hand. Within moments it was completely covered with bees, their tiny, hooked feet clinging to my skin and each other, prickly and pulsating.



I’m not sure how long I stood there awestruck and dumb before clumsily setting up a nuc box with my free hand and reluctantly shaking my golden bee glove onto a frame of drawn comb. I was dazed afterward, my thoughts swirling and buzzing like the swarm I’d just interacted with. I’d read in some of those old tales of tanging that the bees feel the vibrations resonating from the hollow space and are seeking for themselves a hollow cavity. I’d also heard that the bees sense the intention of their drummer and steward and respond. Regardless of how or why, I am very fine with the continually humbling awareness that there are things greater than I that I will never understand. I will never forget the way I felt in that moment nor in the rest of my lifetime if I continue to be gifted the opportunity of working with them, have ever finished learning from the bees.



Honey Bees Defy "Stay at Home" Order

by Helen Cooper, Debbie Dupree and Anya McGuirk

Swarm season can bring on as many challenges as you will likely face in your beekeeping career, so how do you handle being put to the test during a pandemic? Friends Anya McGuirk, Debbie Dupree and Helen Cooper have been working bees together for over a year and routinely consult each other over issues or problems that, as we know, can be frequent. Just about the same time as the "stay at home" order from Governor Cooper, Helen sent out an alert for help, so Debbie and Anya gathered their bee gear and face masks, and here's what happened:

At 11:20 am, a swarm was brewing back in Helen's five-hive apiary. Hive #2 had enough of this "shelter in place" edict. They landed on a tree limb about 15 feet away from their home- too high to reach. It wasn't a large swarm, but Helen wanted those bees back! She placed a nuc box directly under the tree limb where the bees were clustered and, with a bit of hope, added a cotton ball sprayed with a dose of Swarm Commander. Now it was time to wait and watch to see if the bees would take the bait.

At 1:21 pm, while the #2 swarm was still hanging out on the limb above the nuc box, Helen's #4 hive also decided it was time to leave home. As Helen watched the swarm gather momentum, she got an "oh no" feeling deep in her gut. *Where will they land?* Of course! They liked the fragrance of the nuc box placed carefully under the #2 cluster. Maybe that was OK...but this #4 swarm was NOT a small swarm. The bees landed and completely covered the nuc; they hung together off the front of the box all the way down to the ground. Helen, awed at the sight, decided to give them time to settle.

Remember the swarm of bees from #2 clinging to the limb? Well, at 2:30 pm they decide, no social distancing for them. They came down out of the tree and joined the large #4 swarm on the nuc. TWO swarms gathered in ONE place! Helen decided she was in over her head; time to call her bee buddies.

By 3:30 the reinforcements arrived suited up and ready to help with the dilemma of two swarms in one location—bee suits and Covid-19 masks on. Immediately, Anya walked up and plopped down on the ground in front of the mass of bees. Within minutes, she found one of the queens and captured it with a queen catcher. We placed an 8-frame deep box nearby and secured the captured queen between two of the

frames. Many of her bees began to gather around her in her hive box. But there must still be another queen somewhere in that large mass of bees, so Anya and Deb carefully picked up handfuls of bees searching for the other queen. Anya noticed a "ball" of bees. She reasoned that the second queen was in the middle and started brushing away the bees until she found her being attacked by bees that were not from her hive. The queen's squealing could be heard through the balling. After digging her out, we placed her away from the mass of swarm bees and contemplated our next step.



Photo: Debbie Dupree

Bee buddies Debbie Dupree, Helen Cooper and Anya McGuirk enjoy some camaraderie while waiting for two commingled swarms to sort themselves out

Wait, isn't the Covid-19 rule six feet apart? Maybe that will work! Like everyone else across the globe, we decide we must try. We retrieved another hive box with foundation and put both 8-frame deeps six feet apart and six feet away from the location of the swarm mass, in a triangular arrangement. One box had the #2 hive queen in it and the other, the #4 hive queen. We hoped that the mass of bees would sort themselves out and find their queen according to pheromone. We pulled up chairs and watched the two swarms literally separate themselves out between the two empty boxes with their respective queens. They separated out over the next hour and the original landing nuc box was removed. The queens were still in the queen catchers with their colonies. Helen planned to release them the following day. We felt that our mission had been accomplished.

Physical distancing was the key to the success in our swarm situation. Let's hope that we all will weather the pandemic with the same physical distancing and by following the "stay at home" order. Wouldn't it be grand if the bees would also 'stay at home'!

Black Jar Honey Contest Winners

by: Suzy Spencer NC Master Craftsman



The NCSBA's second "black jar"

honey contest was held at the Spring conference in New Bern. In a "black jar" contest, judges cast their votes based only on what they think tastes good. There were forty-eight entries, and any registered attendee could judge. The entries were randomly assigned a number, covered with foil to hide identifying marks, and placed into one of four ranges so that an individual judge had to taste no more than twelve honeys. Judges voted for the top three in their assigned range using poker chips (blue = 1st place = 3 points; red = 2nd place = 2 points; and white = 3rd place = 1 point). There were thirty-two judges for each of the four ranges in the preliminary round on Friday morning. The top three honeys from each range (plus one extra due to a tie) advanced to the final round in the afternoon. Ninety-seven people judged in the final round -- each tasting all honeys this time -- to arrive at the top three entries. The winners were presented ribbons in the general session on Saturday morning. Surprisingly, after all those votes cast, the top five were separated by only five points total, so the fourth and fifth places were also recognized.

Black Jar Contest Winners

The winners, the counties in which the honeys were produced, and the probable nectar sources were:

- 1st Place- **Jeremy Hays** (Wake County, tulip poplar)
- 2nd Place- **Rick Coor** (Wayne County, wildflower)
- 3rd Place- **David Ackerman** (Surry/Wilkes County, sourwood/clover mix)
- 4th Place- **Wendy Stallings** (Pitt County, wildflower swamp)
- 5th Place- **Ed Speer** (McDowell County, early Spring)



Black Jar Contest Winners: Rick Coor, Wendy Stallings, David Ackerman, Jeremy Hays, Ed Speer, and Suzy Spencer



Volunteers Lori Hawkins, contest organizer Suzy Spencer and Celeste Cavanaugh



Volunteers Alexis Pierson and Terry Wilson check in judges in the Black Jar Honey Contest



First place winner Jeremy Hays with contest organizer Suzy Spencer and NCSBA president Paul Newbold



Black Jar Contest Voting Area



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NCSBA 2020 Spring Meeting Highlights

New Bern, NC - March 5-7

Main Stage Activities



NCSBA President Paul Newbold calling to order the 2020 spring conference in New Bern



"America's beekeeping professor" Dr. Dewey Caron, takes main stage at the Spring Conference in New Bern



Bee Downtown's Leigh-Kathryn Bonner



Opening Ceremony: Pledge of Allegiance



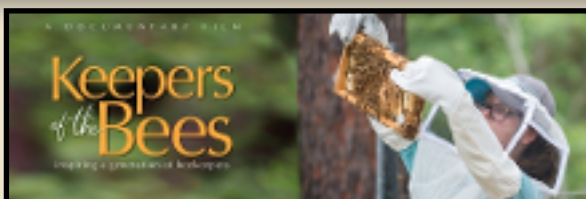
Dr. Judy Wu-Smart teaching the crowd about managing bees for honey production



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Honey Tasting:
Honey Connoisseurs in Training



Conference goes enjoy a screening of "Keepers of the Bees", a documentary production by members the UNC-W Beekeeping Club

Time to Reconnect With Old Friends and Make New Ones



Master Beekeeper Program Testing



MBP committee member Chris Apple and MBP chairman Doug Galloway check in test-takers

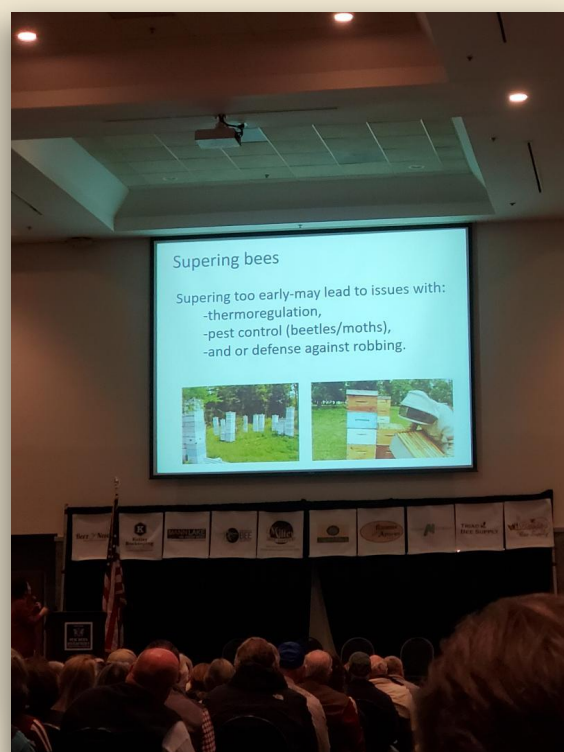
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Terry Wilson signs in Black Jar Honey entries





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Certified Honey Producer Program

by Ed Speer Chairman

If you produce and sell your honey in North Carolina, let the NCSBA's Certified Honey Producer Program (CHPP) increase your sales and make your customers happier! The program helps local beekeepers sell honey by promoting the purity, flavor, nutrition, variety, and unadulterated goodness of pure North Carolina honeys. In addition, the program helps connect customers looking for real local honey with trustworthy beekeepers.

The CHPP is built on trust and integrity. It imposes strict membership requirements and guidelines that must be adhered to. Most importantly, the program provides 'Certified by the NC State Beekeepers Association' stickers for use on each bottle of honey produced by its members.

Honey consumers are becoming increasingly aware of the widespread availability of questionable honey for sale in many traditional retail stores. These concerned customers are looking for assurance that the honey they buy is real, natural, safe, nutritious, and local. The 'Certified by the NC State Beekeepers Association' sticker on individual bottles of honey produced by CHPP beekeepers is the assurance they are looking for.

In addition, the CHPP's interactive online Honey Locator Map shows every member beekeeper who sells pure North Carolina Honey.

This map can be found on the CHPP page on the NCSBA website: <https://tinyurl.com/NCSBACHPP>

Honey buyers who find the map online, can enlarge it to find their location, and click on a nearby pin to find that beekeeper's name, address, phone number, and email or web address. An alphabetized, searchable registry list of these beekeepers can also be found under the same tab on the NCSBA website.

Finding local honey from trustworthy beekeepers has never been easier!

The CHPP is dedicated to helping promote North Carolina honey. In addition to the certified stickers, the Honey Producers Registry, and the Honey Locator Map, the program is beginning an active print and online media information campaign to get the word out about the goodness of our state honeys. Keep a watch out for upcoming newspaper, magazine, and online articles, news, and stories. The website www.realnchoney.com will soon be updated and expanded and will become the online go-to site for honey buyers in NC.

Requirements for Joining the CHPP:

- Must be a current member of NCSBA
- Must produce and sell honey from NC honey bees
- No adulterated honey
- No removal or addition of pollen
- No feeding of sugar or corn syrup during nectar flows
- No beekeeper-applied additives or flavorings
- No enzyme-destructive heating
- Must agree to follow all CHPP guidelines, including industry-accepted bottling and labeling
- Must have endorsement from an eligible reference beekeeper
- \$25 gets you a 2-year membership, renewable without a reference requirement.
- Online application forms, program guidelines, and reference requirements can be found on the CHPP page listed above.

Stickers are now 35-47% Off!



The CHPP is pleased to announce its new Sticker Sale. Now members can buy 500-count rolls of the small (\$17.00/roll), medium (\$19.00/roll), or large (\$19.00/roll) Certified Honey stickers or the Discover the Goodness (\$19.00/roll) stickers cheaper than ever. No shipping or handling, just plus tax. New volume printing and shipping makes the savings possible. NCSBA members have even more reasons to join the CHPP and apply stickers to their jars of honey. Members can find the stickers for sale on the NCSBA STORE: <https://www.ncbeekeepers.org/store>.

Boost your sales by joining the CHPP!

For questions, contact: Ed Speer, Chair NCSBA Certified Honey Producer Program at certifiedhoney@ncbeekeepers.org

Beekeeping Product Review

Metal Entrance Disks

by Daniel Harnden



Newly created and small beehives often need an entrance reducer to prevent robbing. I use metal entrance disks (disks) purchased from Bailey's Bee Supply in Hillsborough, NC on all my hives (these are also available from any of the major honey bee supply houses). The primary benefit of these disks is to provide an easy way to control access on small hives. Just as 300 Spartans blocked the narrow coastal pass of Thermopylae against an army of 100,000 Persians, even the smallest hive can defend itself from robbing when only 1 or 2 bees can enter at a time.



The primary benefit of entrance disks is to reduce the entrance

Rotating the disc to 'dial in' an entrance of just the right size is particularly convenient compared to removing and reinstalling traditional wood entrance reducers. As the colony grows, the size of the opening can be adjusted accordingly.

Another feature I use frequently is to close off access to the hive by rotating the metal entrance disc to complete closure or as I prefer, ventilation. This readies the hive for moving and once at its destination, it can be opened again just as quickly.



These hives are bee tight with the disk in either the closed or ventilated position

When transporting nucs inside a vehicle, having a completely bee-tight closure can make the ride home with the bees much more pleasant.

My friend and mentor Betsey Spencer showed me how she used cattle tags to track queens and queen status in her hives by pinning cattle ear tags of different colors to the front of each hive. This gave me the idea to substitute small thin magnets for cattle tags and using the metal entrance disks not only as a platform

for individual hive identification but also a bulletin board that can easily be updated.



Here I am using small magnets to keep track of the queen (or her status) in each hive

But my favorite feature is to use the surface of the disks to attach long-lasting outdoor vinyl stickers. Each hive number is prominently displayed, and each sticker has a unique color/shape combination.

This idea originated after hearing Dr. David Tarpy of NC State University talk about using the honey bees' ability to spot colors and shapes to reduce drifting by thumbtacking a waterproof playing card just above the entrance of beehives. Because each entrance disc has a colorful and distinctive pattern, drifting between hives is somewhat reduced. But even more importantly (because I usually have a queen mating operation going) queens returning from their mating flights are much less likely to enter a foreign hive if it looks different from its neighboring hives. Entering the wrong hive is a fatal mistake for a newly mated queen and is an error that these colorful and useful discs have helped keep to a minimum.



Screen bottom board that has been modified for use with an entrance disc

If you decide to use an entrance reducer disc you must close off the traditional bottom entrance and drill a hole in the hive body. I modify the bottom board by cutting a $\frac{3}{4}$ " x $\frac{3}{4}$ " piece of wood cut to the appropriate length for the bottom board I am using as seen in the photo below. Based on Dr. Tom Seeley's recommendations in his excellent book *Honeybee Democracy*, I drill a 1.25" diameter hole in the lower half of the hive body on the side that I want the entrance to be on.

Measuring Propolis Deposition A Novel Approach

by Doug Galloway and Dennis Clay



2022 will be the 40th anniversary of Dr. John Ambrose putting to paper his vision for the North Carolina Master Beekeeper Program. Over the years, requirements at each level have evolved, but we have remained true to his vision. Master Craftsman Beekeeper, the highest level of the Master Beekeeper Program, requires a significant commitment by the candidate. Future candidates are being asked to draft an article that meets the editorial standards of the Bee Buzz, so it may be published, sharing their research and research experience with the NCSBA Membership. The following is an abridged version of a reprint from the American Bee Journal (August 2019) of the article I prepared about my Master Craftsman Research project. I hope you find it interesting and beneficial.

“Necessity is the mother of invention.”

Research follows the same track that every hard-earned solution to life's challenges takes. First is the problem. Next is contemplation, exploration, review, discussion, persistence, review, discussion, tenacity, review, discussion, stubborn fortitude, and then some small breakthrough occurs. This process may need to be repeated multiple times to get to your goal. Along the way, small revelations are the rewards that keep the search and the research going forward.

Research proposal: measuring propolis deposition on wood using veneers, a novel approach that provides sustainable and credible values for the measurement of propolis deposition on a wood surface.

The Process:

Conventional methods for measuring propolis deposition on wood yield inaccurate results due to the porous nature of wood. With no practical way of measuring with any accuracy the total amount of propolis while accounting for the variability of moisture in the wood, we had to develop a new approach.



Figure 1: Rough Veneer installed in rough box

That is when Dennis asked, “Could we use veneers?” Dennis explained that we could cut thin veneers of the same wood that the boxes were built from and attach the veneers to the interior of the rough and smooth boxes prior to installing the nucleus colonies (Fig. 1). Veneer dimensions were 2 x 2.5 x 1/8” and were prepared by Hidden Happiness Bee Farm. Before the veneers were installed, each was numbered and processed. The process included weighing the veneers after they had achieved an Equilibrium Moisture Content (EMC), then baking them in a convection oven at a relatively low temperature for a couple hours to remove any capillary moisture. After two hours, the veneers were removed, weighed and placed back into the convection oven for an additional thirty minutes, then weighed again to be certain all the moisture had been removed. The Oven Dried Weight (ODW) was then recorded for use in the final calculations to determine propolis deposition.

The Project:

An apiary was established including bear fencing, as we have plenty of healthy, hungry black bears in the mountains of NC. Ten hive stands were constructed that would each hold two hives, one each of the smooth interior brood body and rough interior brood body. All new woodenware was constructed, and the hives were placed at the ends of each 8-foot hive stand, with the stands placed approximately 15-feet apart. Twenty nucleus colonies of Italian mutt bees were purchased from a NC vendor and installed on April 21, 2018. During installation, it was observed that most of the colonies had no open brood, indicating the lack of laying queens. The vendor acknowledged that many of the queens installed were virgins. Over the next couple of weeks, ten queens were replaced by the vendor, again with virgin queens. During the rest of the project, ten mated queens were purchased from a reliable queen breeder and installed as needed.

Colonies were fed 1:1 sugar syrup and essential oils during much of the project. Varroa counts and nosema levels were evaluated regularly. Varroa counts remained low during most of the season with a moderate increase toward season end, when colonies were treated when levels exceeded one varroa per 100 bees. Samples of honey bee foragers were removed for the determination of nosema levels and delivered to the NC State Department of Agriculture and Consumer Services Beneficial Insects Lab where they were evaluated by Agricultural Research Technician Glenn Hackney. The June samples reflected a moderate level of nosema while the October samples showed a high level.

By the end of the season, all colonies had survived, and preparations were made to evaluate propolis deposition. Four sacrificial veneers were prepared in the same manner as the colony veneers and installed in four random colonies. Two veneers had smooth surfaces while two had rough surfaces. The veneers were placed into cages made of #8 hardware cloth to prevent the bees from depositing any propolis on them. They were then placed inside the colonies between the brood box and medium super for two days so they could reach an equilibrium moisture content equivalent to the woodenware in the colony. On October 31, 2018, all veneers, both sacrificial and those the bees propolized, were removed from the colonies, promptly taken to the honey house and weighed. The impact of atmospheric humidity on the veneer's moisture content was minimized by this strategy. The colony veneers which were installed in the brood boxes prior to nucleus colony installation, had been exposed to propolis deposition for 193 days, a little over six months. There was no source analysis of the resins used in the propolis deposited. The project apiary is located in the NC mountains, adjoining the Pisgah National Forest, with no significant tillable agriculture for a radius of at least five miles. It is reasonable to conclude that the resin sources were mostly evergreen and deciduous trees.

Final Calculations:

A jeweler's scale was used for all weight measurements, and the scale was re-calibrated prior to each use. The sacrificial veneers' weights were compared to their Oven Dried Weights (ODW). The difference was the Equilibrium Moisture Content (EMC) that the sacrificial veneers acquired while in the hives. This EMC was compared to the ODW of the sacrificial veneers to arrive at a Percentage Equilibrium Moisture Content (PEMC) relative to oven dried veneer weight. The average PEMC was applied to the ODW of the propolized colony veneers to determine the moisture weight in those veneers. The ODW and EMC were then subtracted from the total weight of the propolized veneers, leaving the weight of propolis.

The Results:

Though the rough veneers visually appeared to have more propolis deposited on them, the weight of

propolis indicated that the amount of propolis was effectively equal on both rough and smooth veneers, with a slightly higher amount of deposition on the smooth veneers (Fig. 2). Colony strength was monitored throughout this project and was compared to propolis deposition (Graph 1). It seems reasonable that propolis deposition and colony strength should correlate, and this graph favors that conclusion and further supports the effectiveness of this measurement method.

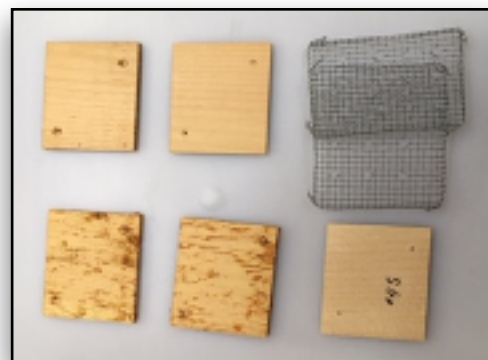
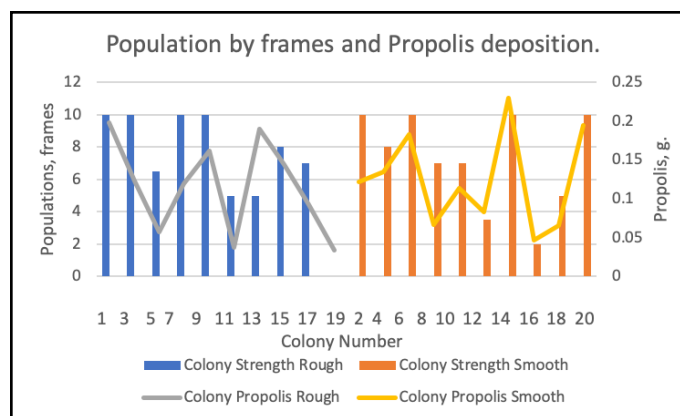


Figure 2:

Smooth, rough, sacrificial veneers and veneer cage

Although some ancillary observations were made regarding colony health, varroa and nosema levels, population growth and queen performance, none of these proved statistically significant relative to the rough or smooth boxes, per Dr. Tarp's Statistical Analysis System (SAS) evaluation of the data recorded during the project.



Conclusions:

This is an effective process for measuring the quantity of propolis deposited by a colony of honey bees. This technique can be applied to explore propolis deposition in different locations within the brood box, propolis deposited or removed over a variety of time frames and propolis deposition on a variety of wood surface textures. Variations in length of time for deposition, honey bee sub-species, resin source and wood texture each might have an effect on the results in future research.

Acknowledgements:

Thank you to the NCSBA MBP for providing the incentive to explore apiculture research, and to Cynthia Speed and Freddy Proni for their content edit and review of this article.

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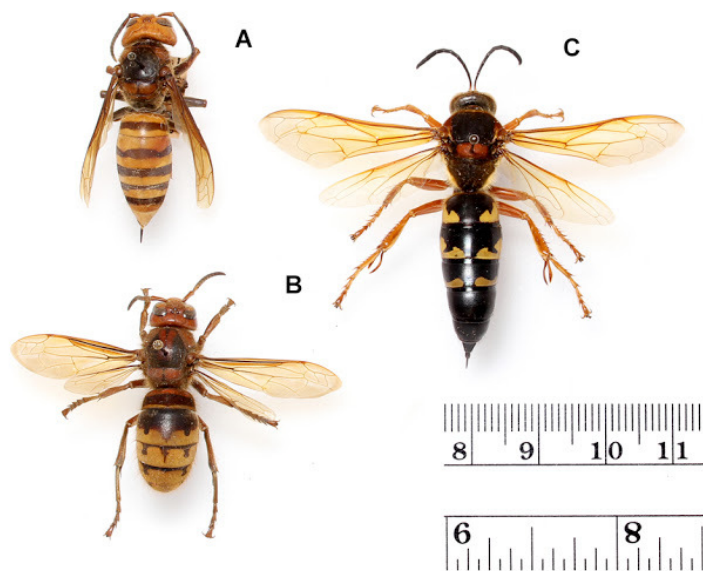
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Asian Giant Hornets: Not a Problem for NC Beekeepers... Yet?

by Dr. David Tarpy

Department of Entomology & Plant Pathology, NC State University

There is a viral news story circulating about the “murder hornet,” the unfortunate moniker of the Asian giant hornet, *Vespa mandarinia*. To the entomology world, this news is actually a bit old, as it was first reported in December 2019, where a small handful of colonies were reported in the Pacific Northwest (and nowhere else in North America). As such, there are no documented cases of this new invasive insect in North Carolina.



Three giant wasps: A) Asian giant hornet (*Vespa mandarinia*), B) European hornet (*Vespa crabro*), C) cicada killer (*Sphecius speciosus*). Photo by Matt Bertone

Many folks have been mistakenly confusing the European hornet, *Vespa crabro*, as this newcomer, as to the untrained eye they look very similar. Rest assured, though, these are a different species that we’ve had in NC for quite a while, and they pose no significant threat to beekeepers (although they can, like many social stinging insects, pose a minor risk to public health).

The “murder hornet” nickname was coined not because of the fact that it rarely kills people but instead they can prey on honey bee colonies. Like all wasps (which are predatory), they collect sources of meat for their protein (unlike bees, which collect pollen from flowers, and are thus vegans rather than omnivores). Since honey bee colonies are a convenient concentration of insects, these wasps can target beehives while foraging. Such attacks typically start in mid-summer, when the hornet populations are increasing, by first snatching a few adult workers from the front entrance. Later in the summer, when the hornet colonies are at their peak, they can become bolder; they can decapitate most if not all of the adult

workers in a colony then steal all of the larvae, leading to the obvious demise of the honey bees often within only a few hours. As such, **they should really be called the “Apicidal hornets!”**

Interestingly, in its native range, the Japanese subspecies of honey bee (*Apis cerana japonica*) has evolved an interesting nest defense against these predators. At the entrance, when an Asian giant hornet tries to enter, some of the guard bees will pounce on the intruder and “ball” them, preventing their movement. The bees then exercise their wing motor muscles to generate heat (just like they do during winter), and in doing so they heat the wasp up to a lethal temperature, killing it. Unfortunately, this behavior has not been reported in the Western honey bee, *Apis mellifera*.

Regardless, beekeepers can significantly deter and prevent such predation by using robbing screens. While primarily used to deter other honey bees from stealing honey, they are also very effective for hornets and other unwanted guests. The majority of the entrance is screened over with #8 wire mesh so that only a small gap is open and is therefore much more easily defended. The entire entrance still emits hive odors, however, so unsuspecting predators continue in vain to get in past the guard bees. Without using such preventative measures, thousands of *A. mellifera* hives can be affected each year in Japan.



Robbing Screen on a Beehive

Seeing that they’re not in NC, the issue for beekeepers in the state is moot, but it is something to be on our radar in the future. Hopefully, that is several years or decades away. Even when they get to North Carolina, their impact will likely pale in comparison to most of the more immediate problems with which beekeepers are already facing.

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