

Founded 1908 • Volume XLII, No. 154 • June 2018

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Want to get the e-newsletter instead? Just send an email to Bob Crouse at rlcrouse@qis.net and tell us your name and email address!



# **President's Message**

by Jim Fraser

I hope you have enjoyed the lovely spring weather we have experienced this year. I don't believe we will be able to use the word "typical" ever again to describe our spring weather. My bees went from about 10 miles per hour in the cold of April to 100 miles per hour in the first two weeks of May. That's a problem when dealing with nucleus colonies. Hopefully the change in the weather, the beautiful locust bloom, and a long, heavy poplar tree bloom will bless us all with heavy honey supers and healthy bees.

The tremendous demand for bees this year indicates that some beekeepers experienced heavy losses, but a big part of the demand is driven by the many "newbees" entering the hobby.

I have seen firsthand and heard the "buzz" about bee classes full of students eager to start with bees. To use a phrase from an old friend, "Train them to be beekeepers not bee havers." If you have been around Maryland beekeeping long enough, you will recognize the wisdom of George Imirie. I hope that through the classes we have impressed upon the students the two most important things to know about beekeeping in Maryland - feed your bees at the appropriate times and kill varroa mites.

If your bee club or association does not offer beekeeping classes, please consider doing so. The most effective way to "Promote better beekeeping in the state of Maryland" is to teach the newcomers how to keep bees properly. "Properly," can mean many different things, so if it works for you, you have something to offer.

Speaking of education, don't forget the 2018 EAS conference will be held from August 13-18, in Hampton, Va. You can hear world class speakers, attend classes for beginners, sideliners, etc. If you want to be immersed in all things honey bee, come for the day or all five days. All of the details can be found at easternapiculture.

There will also be opportunities for you to volunteer right here at home for a honey bee related activity at the Maryland State Fair in Timonium. More details to follow.

I hope your bees are mite free, your honey supers are overflowing, and that you have time to just relax in your bee yard and listen to the pleasant hum of activity from your hives. Each one of my yards has a chair just for that purpose.

# **News From the Apiary Inspector**

MDA's State Apiary Inspector is Cybil Preston, Phone (410)841–5920, Fax 841–5835, Cell 410–562–3464, email cybil preston@maryland.gov

Maryland's Apiary Inspectors are participating in the National Honeybee Survey, <a href="https://beeinformed.org/aphis">https://beeinformed.org/aphis</a>. We are looking for beekeepers with 8 or more beehives who would be willing and wanting to participate. This survey is free of charge: an MDA inspector will take samples of bees and wax from each colony. Tests are run on the samples and the beekeeper will get a print out and run down of hive issues and viral levels.

Anyone wishing to participate should contact <u>Cybil.</u> <u>preston@maryland.gov</u>.

Nuc inspections and sales are starting to dwindle. There were more nucs brought into the state for sale than last year. Some packaged bees came very late this year, after the main nectar flow.

We are seeing higher numbers of sac brood chalk brood and European foulbrood infections. This is probably due to the long periods of prolonged wet, cool weather experienced across Maryland this Spring.

### **MSBA T-Shirts Return**

MSBA has ordered more "I'm a Maryland Beekeeper" t-shirts, available July 1. The shirts are the same price -\$15 with \$4 shipping if ordered online. To buy online, visit <a href="https://www.mdbeekeepers.org">www.mdbeekeepers.org</a> and scroll down to the link near the bottom of the page. The shirts will be available at meetings (with no shipping charge) starting in November. They are 100% cotton in sizes S-3XL, with limited numbers in each size. Email <a href="mailto:beeline@mdbeekeepers.org">beeline@mdbeekeepers.org</a> for more info!



## **UPCOMING LOCAL EVENTS**

VA Beekeepers Assoc. 100th Anniversary Meeting, June 15-16, Roanoke College, Salem, VA. Kirsten Traynor, Dewey Caron, Jessica Kern, Tom Seeley. www.virginia-beekeepers.org

Maryland State Beekeepers Association Spring Meeting, June 16, 8:30 AM to 4:00 PM, Dr. Paul Kelly, UMD/College Park, Plant Sciences Building.

Brushy Mountain Bee Farm Field Day, June 23, New Columbia, PA. \$45, Steve Repasky, <u>www.brushymountainbeefarm.com/Field-Day-2018</u>.

PSBA Summer Picnic & Queen Swap, July 14, Fisher Bee Farm, Queen Bee Lane, McVeytown, PA. <a href="http://www.pastatebeekeepers.org/PSBApicnic.htm">http://www.pastatebeekeepers.org/PSBApicnic.htm</a>

Delaware Valley Univ Intro Beekeeping Course, July 20-22, Delaware Valley University, Doylestown, DE. <a href="https://tinyurl.com/yd7f57hj">https://tinyurl.com/yd7f57hj</a>

7th Annual Mid-Atlantic Organic Honey Bee Convention, July 28, 21 J.B. Finley Rd Sandston, Virginia. \$50 ind./\$90 for two, maohbc.com

WV Beekeepers Fall Meeting, August 24-25. Mollohan Research Center in Fairmont, www.wvbeekeepers.org

Mother Earth News Bee Institute, September 14-15, Seven Springs, PA. <u>www.motherearthnews.com</u>

Pennsylvania State Beekeepers Annual Conference, November 2-3, Ramada Inn, State College. Speakers TBA, www.pastatebeekeepers.org/events.php

Maryland State Beekeepers Association Fall Meeting, Elections and Honey Show, November 17, 2018, 8:00 AM to 4:00 PM MDA, 50 Harry S Truman Parkway

# **Other Upcoming Events:**

Pollinator Week, June 18-24, online guide to events nationwide including events in DC, and Pollinator Week Wine Dinner with Sam Droege June 21. <a href="http://pollinator.org/pollinator-week">http://pollinator.org/pollinator-week</a>

Heartland Apicultural Society Conference, July 11-13, Washington U /St. Louis. Spivak, van Engelsdorp, Berenbaum, Delaplane, more! www.heartlandbees.org.

EAS Conference & Short Course, Aug. 13-17, Hampton Roads Conv. Center, Hampton, VA. Ellis, Oliver, Palmer, Ramsey, Rangel, more: www.easternapiculture.org

18th Annual NAPPC Int'l Conf., October 16-18.

USDA, Washington, DC, pollinator.org/nappc/conference.

2018 UF Bee College, October 12-13, Honey Bee Research and Extension Lab, Gainesville, FL. entnemdept. ifas.ufl.edu/honey-bee/extension/bee-college/

American Beekeeping Federation (ABF) Conference, The Myrtle Beach Convention Center, Myrtle Beach, SC, January 8-12, 2019, <a href="http://www.abfnet.org">http://www.abfnet.org</a>.

# Maryland State Beekeepers' Association Spring Meeting, June 16, 2018 Plant Sciences Building at UMD/College Park,

8:30 am	Refreshments, Coffee, Donuts, etc.	
9:00 am	Opening and Welcome	Jim Fraser, EAS Master Beekeeper, President
9:15 am	Maryland Apiary Inspector's Report	Cybil Preston: Maryland State Apiary Inspector
9:30 am	Tips, Tricks and Tools for the Bee Yard	Paul Kelly, University of Guelph
10:30 am	Winter Prep Begins Midsummer	Zachary Lamas, University of Maryland
11:30 am	Lunch	
12:30 pm	<ul> <li>Honey Bee Nutrition:</li> <li>Nutritional Stress, behavioral development and Honey Bee Health</li> <li>Nutritional Supplements for Honey Bees</li> </ul>	Dr. Miguel Corona, USDA/ARS Beltsville Bee Lab
1:30 pm	Buckfast Queen Rearing and Bee Breeding: Why We Keep Bees on Islands	Paul Kelly, University of Guelph
2:30 pm	Requeening Methods	Zachary Lamas, University of Maryland
3:30 pm	Ask Expert Beekeepers Your Anonymous Questions	Panel Discussion
4:00 pm	Adjourn	Jim Fraser, President

### **Directions to the University of Maryland**

If you are using GPS, please use address 7950 Baltimore Avenue, College Park, MD 20742 and follow directions (below) to Plant Sciences Building. More info at http://www.cvs.umd.edu/visitors/maps.html

UMD/College Park is located on U.S. Route 1 south of the Capital Beltway (I-495). Take exit 25B from I-495 Proceed about two miles south, and follow signs to turn right into Main Entrance (at intersection of Campus Drive with Paint Branch Parkway).

Once inside the gate, keep left on Campus Drive until the rotary with the large "ME" logo. Take first exit right. Proceed to first intersection; make a left and then immediate right into Regents Parking Garage.

You may park in one of the UNNUMBERED spaces on the 1st floor; parking is free in unnumbered spaces only! The Plant Sciences Building is directly across the street from the Garage Entrance.

The "M" Rotary at UMD/College Park





# Spring 2018 Meeting Features Paul Kelly of University of Guelph

MSBA welcomes Paul Kelly of the University of Guelph as keynote of our Spring meeting. Paul Kelly has managed the University of Guelph, Honey Bee Research Centre since 1987. His primary role at the centre is to manage 300 honeybee colonies for research and teaching purposes. He provides training for students and beekeepers, conducts facility tours for the general



public and generally won't stop talking about bees.

His beekeeping career started with a grade six science



project and led him to work with bees in Alberta, British Columbia, Nova Scotia and New Zealand. His beekeeping interests include Buckfast bee breeding, queen rearing, self sufficient hive management, indoor overwintering, beekeeping equipment and education innovations. Paul has 100 of his own colonies that he manages for nucleus sales and honey production.

**Dr. Miguel Corona** is a Research Physiologist at the USDA/ARS Beltsville Bee Research Laboratory. The overarching goal of the Bee Research Laboratory is to provide beekeepers and regulators practical

# From the Library of Congress Online Archives: Teaching Reekeeping to Injured

Teaching Beekeeping to Injured Soldiers, 1918

In this image, a nurse teaches beekeeping to soldiers returning from World War I: no one seems too worried about protective gear!

Even 100 years ago, a good brood pattern was worth a photo. Harris & Ewing, photographer. <a href="https://www.loc.gov/resource/hec.12171/">https://www.loc.gov/resource/hec.12171/</a>

advice for maintaining sustainable honey bee populations for pollination and hive products. Dr. Corona received his PhD. from the National Autonomous University of Mexico, and did further Postdoctoral research at the University of Illinois/Urbana and the University of Lausanne.

Dr. Corona and a team including Dr. Jay Evans and Dr. Steven Cook won a \$15,000 prize this January in the Bee Nutrition Challenge of the Honey Bee Health Coalition! Their work concentrated on development and testing of optimal seasonal nutritional supplements for honey bees. In his talk, Dr. Corona will be sharing some of the lessons from this important research.

Zachary Lamas is a PhD student in the vanEngelsdorp Lab at the University of Maryland. Zach's background includes managing honey production and nucleus colonies with Mike Palmer, and his own queen and nuc businesses in New



York and North Carolina. He is also establishing a new nuc and queen operation here. He has taught in Mexico, Brazil, and Cuba, and has given talks to the American Beekeeping Foundation. Come learn about queens and how to get your colonies to the queen right position that will help them thrive.



# Maryland's First Bee Campus USA!

from The Star Democrat

Washington College in Chestertown has become the first higher-education institution in Maryland and the 35th in the nation to be designated an affiliate of Bee Campus USA, a program designed to recruit campuses for the benefit of pollinators.

"Imperiled pollinators are responsible for the reproduction of 90 percent of the world's wild plant and tree species. Washington College is a stellar example of the influence educational institutions can have on their students and the broader community," said Bee Campus USA director Phyllis Stiles. "Their talented faculty, staff and students offer an invaluable resource for Eastern Shore residents in seeking ways to manage ornamental landscapes in more wildlife-friendly ways."

"By studying and supporting pollinators, students are working to realign our culture with natural forces and enhance life on this planet," said campus garden adviser Shane Brill, who three years ago helped students install an apiary in the campus garden. "They can trace the path of a bee's flight back to the energy of the sun and, in the course of that journey, reimagine our place in the world." Through a Beekeeping 101 course hosted each spring by the Department of Environmental Science and Studies, students examine bee anatomy, nutrition and colony behavior, and how to establish a hive. They become empowered in the role of "bee ambassadors" for the public, and they volunteer their apicultural skills in the community with the *Upper Eastern Shore Beekeeping Association*.

In the campus garden, students are hands-on learning not only the mechanics of beekeeping, but also the interconnected relationships between the campus bees, and the plants and flowers that sustain them — and which they also sustain — in and near the garden.

Last fall, students harvested their own honey, collecting about two gallons. They also participated in pollinator workshops with local community members to further educate people about the vital roles that pollinators play in agriculture, permaculture, and plant and human health. Students also implement conservation landscapes that ensure thriving populations of pollinators in a local, resilient food system. They share their research on the college website with a growing inventory of useful plants they cultivate on campus.

In its designation as a Bee Campus, Washington College has committed to minimizing hazards to pollinators by using no neonicotinoid pesticides and almost no glyphosate herbicide or other potentially dangerous synthetic pesticides. According to Stiles, each certified campus must reapply each year and report on accomplishments from the previous year. The Bee Campus USA designation recognizes educational campuses that commit to a set of practices that support pollinators, including bees, butterflies, birds and bats, among thousands of other species.

For more information about the application process for becoming a Bee Campus USA affiliate, visit <u>www.beec-ityusa.org/application-campus.html</u>.

### How (and Why!) To Support the Apiary Inspector, George Imirie, and MSBA General Funds

Every change requires a bit of adjustment, and we're here to help make supporting Maryland beekeeping as easy today as it was when membership was mostly based on paper forms! All donations are tax deductible.

Since MSBA's membership system went online, a number of members have found the process for supporting the three funds associated with the state organization a bit different. Here's how to keep playing your part!

MSBA does not manage, but promotes the Apiary Inspection Fund to support our inspectors and the invaluable service they bring to Maryland beekeeping. MSBA passes the sums we collect to the Apiary Inspectors, but this year's numbers are down. We suggest a donation of your choice plus \$5 per colony, which you can make at <a href="https://www.mdbeekeepers.org/apiary-fund/">https://www.mdbeekeepers.org/apiary-fund/</a> or by mailing your check payable to the MDA and sending it to the

address on our site.

The George S. Imirie Education Fund was founded by Maryland beekeepers in honor of his lifetime of beekeeping education excellence. MSBA manages this fund, and presents an award of \$100 each year to a member beekeeper who follows in his footsteps. You can contribute to the Imirie fund either through your online membership process, or by sending a check made out to MSBA noting the Imirie Fund to Robert Crouse-MS-BA Treasurer, 1606 Dogwood Ln, Bel Air MD 21015.

The MSBA General Fund supports outreach and member activities undertaken by the club beyond those supported by dues. These vary from educating legislators and educating beekeepers to educating visitors to the Honey Harvest Festival, among other events and projects. Support for meetings and newsletters comes from this Fund. Contribute online at <a href="https://www.mdbeekeepers.org/donate/">https://www.mdbeekeepers.org/donate/</a> or by sending a check to the address above.

### New Invasive Pests for MD Beekeepers:

# The Spotted Lantern Fly and the Pygmy Shrew

Maryland beekeepers certainly deal with more than enough pests and threats to honey bee health already, but there are two more invasive species that we need to watch for the welfare of our bees and the surrounding environment.

The Spotted Lantern Fly was named the January 2018 Invader of the Month by the Maryland Invasive Species Council, and the USDA has identified it as a potential \$18 billion threat to agriculture. In some PA counties, beekeepers have been subject to quarantines, and the Lantern Fly also seeks out fruit orchards where commercial pollination can take place. They leave egg masses (see link above) on trees and their arrival here is considered imminent. Beekeepers are asked to be the eyes on this infestation: the species they devastate feed our colonies, as well as our families and neighbors.

The Pygmy Shrew has been moving South from northern boreal forest zones, and has begun to appear in Maryland and DC apiaries. This tiny mammal behaves differently from mice and shrews we have confronted in the past, and may require come changes to your wintering preparations.

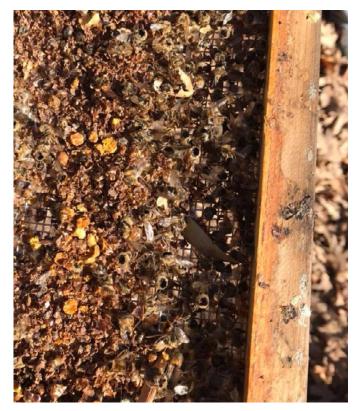
Pygmy shrews are about 2/3 the size of our Common Shrews, and can penetrate #4 hardware cloth when used as a mouse guard (#5 will work). Pygmy shrews hunt in leaf litter, and must eat every hour or starve. For this reason, they do not nest/leave nesting materials in hives, but move on, often hitting wintering colonies one by one in a row. Beekeepers find many headless bees with thoraxes emptied out of their contents: the shrews take advantage of winter clusters to exploit this food source. *The BeeInformed Partnership has an article about the Pygmy Shrew*.

Below left: The Pygmy Shrew is about 2 in. long, about 2/3 the size of a Common Shrew. Right: Heads removed, thorax emptied, no nesting materials.





Above: Spotted Lantern Fly. Below: For comparison, Spotted Lantern Fly Egg Mass on left and center, Gypsy moth egg mass on the right



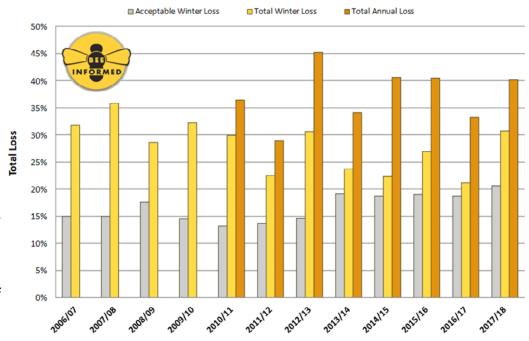
# Preliminary Results from BIP Honey Bee Colony Losses Survey 2017-2018

The <u>BeeInformed Partnership</u> recently completed its twelfth annual survey of managed honey bee colony losses in the United States, finding that 30.7% of colonies

were lost in the period from October 1, 2017 through April 1, 2018. Backyard beekeepers reported losses of 46.3%, sideliners 38%, and commercial beekeepers 26.4%. Beekeepers have shifted their estimates of "acceptable loss" to 20.6% from 18.7%, but over 69% still report losses that were higher than acceptable. During the entire April 1, 2017 to April 1, 2018, U.S. beekeepers lost an estimated 40.1% of their colonies.

This preliminary analysis reflects ongoing work, including the development of state by state results, that will take place over the coming weeks and be published in peer reviewed journals. BIP estimates that survey respondents manage about 6.6% of the honey producing colonies in the US.

### Total US managed honey bee colonies loss estimates



### The Asheville Bee Charmer Cookbook: A Bee- and Honey-Centered Exploration of Flavor

Sometimes it takes a chef to show beekeepers just how much creative, culinary solid gold is growing in their care. This particular publication, *The Asheville Bee Charmer Cookbook* by chef Carrie Schloss, is a combination of a hug to beekeepers and a reservation at the hippest farmto-table restaurant in town, all with recipes that someone like me can (potentially) get away with.

The author encourages readers to get as close as they can to their local beekeeper (she explains that she uses the word "raw" to mean "as free of processing and near to the source as possible") and tries to introduce us to a world of local, varietal flavors. These recipes come with specific honey pairing recommendations, though she stresses that they are advice, rather than instructions.

Schloss got into this via a lifelong friendship with one of the proprietors of "The Asheville Bee Charmer," the shop that inspired the book. She has donned a veil and worked bees herself, though she does not consider herself a beekeeper.

It is positive and important that we beekeepers put the health and welfare of our colonies first, and it is normal to get a little tired of honey after the thrill of uncapping has gone. However, one of the miracles of beekeeping is the door after door of experience and understanding that it opens, and this book is a super tool in going on that adventure. I'd argue that the flavors and pairings of honey are a ticket to greater insight, appreciation and connection.

I found it helpful that the book came with indexes by variety of



honey, as well as by dietary restriction. There were honeys that are clearly only produced by beekeepers in specialized commercial pollination—like carrot or meadowfoam. But you know what? I totally want to try them now! Schloss' pollen-pack-forward recipe for Nut Brittle is in the e-version of this newsletter (you have to see this). The book lists for \$22, and is available in stores and online.

### **MSBA OFFICERS & DIRECTORS:**

President: Jim Fraser, msba@mdbeekeepers.org 1st Vice President: Kim Mehalick, kimnmike89@verizon.net Secretary: Toni Burnham, dcbees@dcbeekeepers.org Treasurer: Robert Crouse (410) 638-0105 MD EAS Director: Patti Wong, pattiwong12@gmail.com "Beeline" Editor: beeline@mdbeekeepers.org Website: Volunteer@mdbeekeepers.org Directors:

Bill McGiffin, bbmcgiffin@yahoo.com Barry Thompson, (301) 922-1810, bht1113@aol.com Fred Smith, f.smith@myactv.net

### Past Presidents:

Allen Hayes, thehayeshouse4@aol.com Toni Burnham, dcbees@dcbeekeepers.org

### **COUNTY VICE PRESIDENTS:**

Allegany: Ben Cooper, cooperville@atlanticbb.net Anne Arundel: Deborah Hewitt, dachewitt@gmail.com Baltimore County: Susan Warner, swarner@ccbcmd.edu Baltimore City: Beth Sherring, bethsherring@gmail.com Calvert: Jerry Worrell (410) 257-3267 Caroline: Paul Dill (302) 249-1866 Carroll: Clyde Strang, cstrang@wellspan.org Cecil: Harry Dutcher, bspaboy@comcast.net Charles: Janet Bardzik, beechrmr@aol.com Dorchester: Oliver Collins (410) 943-3448 Frederick: Martin Posse, mposse@altronicscom.com Garrett: Jerome 'Hop' Cassidy, hopsshop@verizon.net Harford: Harry Dutcher, bspaboy@comcast.net Howard: Brenda Klaunberg, brenda.klaunberg@me.com Kent: Dick Crane, rcranesr@gmail.com Montgomery: Marc Hoffman, wildwoodflower@gmail.com Prince George's: David Clark, dadicl.clark@gmail.com Queen Anne's: Charles Campbell, cecampbellsr@yahoo.com Somerset: Crystal Lehmanking, a.mellifera.a@gmail.com

Wicomico: Dean Burroughs, nectar22@verizon.net Worcester: Wes Townsend, longjohn@mchsi.com Washington D.C. Elizabeth Hill, izzy@izzyhill.com

St Mary's: Harry Dalton, bee2charmer@gmail.com

Talbot: George Meyer, beegeorgehoney@hotmail.com

Washington: Vacant

### LOCAL BEEKEEPING ASSOCIATIONS:

ALLEGHENY MOUNTAIN BEEKEEPERS ASSOC. Pres: Lewis Smith, www.alleghenymountainbeekeepers.com ANNE ARUNDEL BEEKEEPERS ASSOC. Pres Carl Guerci, president@aabees.org, web: aabees.org APPALACHIAN BEEKEEPERS ASSOCIATION Pres: Hop Cassidy, hopsshop@verizon.net

ASSOC. OF SOUTHERN MARYLAND BEEKEEPERS

Pres: Susan A. Polsky, (301)863-0349, http://gworrell.freeyellow.com/asmb.html BALTIMORE BACKYARD BEEKEEPERS NETWORK

Pres: Beth Sherring, bbaltimorebbn@gmail.com

BOWIE-UPPER MARLBORO BEEKEEPERS ASSOC. Pres: Maggie Mills, maggie.m.mills@gmail.com, www.bumbabees.com

CARROLL COUNTY BEEKEEPERS ASSOCIATION

Pres: Larry Truchon, info@carrollcountybeekeepers.org

CENTRAL MARYLAND BEEKEEPERS ASSOC.

Pres: Chris Hart, president@centralmarylandbees.org www.centralmarylandbees.org

EASTERN SHORE BEEKEEPERS ASSOC. Pres: Paul Dill (302) 249-1866

FREDERICK BACKYARD BEEKEEPERS

Pres: John Klapac, Backyardbees@emaildodo.com

FREDERICK COUNTY BEEKEEPING ASSOC.

Pres: Joe O'Connell, joconnell624@yahoo.com, www.frederickbees.org

HOWARD COUNTY BEEKEEPERS ASSOC.

President: Clif Darby, darby@stsci.edu

LOWER EASTERN SHORE BEEKEEPERS ASSOC.

Email: lowereasternshorebeekeeper@gmail.com,

Web: lowereasternshorebeekeepers.org

MONTGOMERY COUNTY BEEKÉEPERS ASSOC.

Pres: Leon Vandenberg, l.vandenberg@verizon.net

www.montgomerycountybeekeepers.com SUSQUEHANNA BEEKEEPERS ASSOCIATION

Pres: Jason Rubin, Susquehannabeekeepers@gmail.com, susquehannabeekeepers.com UPPER EASTERN SHORE BEEKEEPING ASSOCIATION

Pres: Donald Sparks, (410)708-6360, sparks.dk@gmail.com, www.uesbees.org

WASHINGTON COUNTY BEEKEEPERS ASSOCIATION Pres: Chuck Schwalbe, planthealth@myactv.net, washingtoncountybeekeepers.

> weebly.com WYE RIVER BEEKEEPERS ASSOCIATION Pres: David Kyger, wyeriverbeekeepers.org

**MDA OFFICE OF APIARY INSPECTION** 

Cybil Preston (410) 562 3434, cybil.preston@maryland.gov

### MSBA HOME PAGE:

www.mdbeekeepers.org, email: webmaster@mdbeekeepers.org If your dues are not current, please pay at next meeting or mail to: MSBA Treasurer, Robert Crouse, 1606 Dogwood Lane, Bel Air, MD, 21015. Note: we can only accept dues payments for a single year.

### THE BEELINE

c/o A. Burnham 318 12th Street NE Washington, DC 20002



Using email saves MSBA more than \$2,000 per year. Can we have your address?

# Beekeeping and Entomology News of Interest, Spring 2018

### **Bees Understand Zero**

The June 8th issue of Science includes <u>a study by Australian and French scientists</u> which indicates that honey bees understand the concept of zero. "It has been said that the development of an understanding of zero by society initiated a major intellectual advance in humans, and we have been thought to be unique in this understanding. Although recent research has shown that some other vertebrates understand the concept of the 'empty set,' Howard et al. now show that an understanding of this concept is present in untrained honey bees."

Human historians date the development of this concept to different times in different civilization, but among the earliest was 5th century A.D. India.

### **Drone Pollination Takes Place in New York**

<u>Syracuse.com</u> reports that Beak & Skiff Apple Orchard in LaFayette, NY, is the first orchard in the world to use drones to pollinate their apple trees.

Dropcopter, a start-up company participating in GE-NIUS NY business accelerator program at the Syracuse Technology Garden, used a hexacopter drone to spray pollen on about five of Beak & Skiff's 300 acres of apple trees.

Peter Fleckenstein, a partner and director of fresh fruit operations at Beak & Skiff, said the technology could be especially useful during cold spring days, when bees are not active. If those cold days occur during the critical pollination period, the orchard could have a bad growing season, he said.

Fine said a study will be done to determine whether the portion of the orchard that was pollinated by the drone produced a better yield of apples than it otherwise would have.



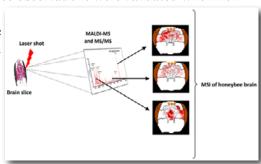
Photo of first drone known to do the work of pollination. (Photo credit: Rick Moriarty | rmoriarty@syracuse.com)

### Africanization is Just One Neuropeptide Away

A study in *The Journal of Proteome Research* demonstrates that aggressive behavior in genetically similar *Apis mellifera* and *Apis mellifera scutellata* species may result from a single peptide. A number of genes seem to be involved in aggressive behavior in honey bees, but neuropeptides appear to play an important role in regulating their expression.

Researchers at University of São Paulo State stimulated worker bees to sting a leather target, then analyzed the brains of the aggressive bees and not those who held back from the target. Neuropeptides including AmAST were discovered and suspected of a role in aggressive behavior. These observations were validated when non-

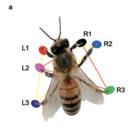
aggressive workers were injected with these neuropeptides, and then displayed aggressive behavior.



### Honey Bee Locomotion May Help Robots Climb Walls

Designing artificial locomotion is one of the major challenges of robotics. With six legs to coordinate, an insect's walk involves more than simply putting one foot in front of the other, and might not seem like an intuitive choice. In fact, the complexity of that movement may just be a good model for the development of multi-legged robots, especially those that can climb walls, according to research published in the *Journal of Insect Science*.

Among other surprises, analysis revealed that whether a bee is moving along the ground or up a wall, it prefers to use a three-legged gait when going straight, but switches to a four-legged gait when turning. Robots that now climb walls use caterpillar tracks or adhesion, not flexible enough for the real world. Honey bees, however, are adept at these movements, so an examination of their biomechanics seems useful in robot design.





# August 13-17, 2018



**EAS 2018** 

Hampton Roads Convention Center, Hampton, Virginia

### Conference (Aug 15-17) Speakers Include:

Subject to change

- Celia Davis, NDB (National Diploma in Beekeeping, UK)
- **Dr. Jamie Ellis**, University of Florida
- Randy Oliver, Scientific Beekeeping
- Mike Palmer, French Hill Apiaries, Vermont
- Freddy Proni, North Carolina Grown
- Sammy Ramsey, University of Maryland
- Dr. Juliana Rangel, Texas A & M
- Dr. Jennifer Tsuruda, Clemson University
- Dr. Kirsten Traynor, American Bee Journal
- Michael Young, MBe, Institute of Northern Ireland Beekeepers

and MANY others

# VIRGINIA 2018 "Where it all began" EAS

Centrally located along the East Coast, 40% of the US population is within one day's drive (10 hours) of Hampton, Virginia.

Fun and easy day trips to Colonial Williamsburg and the Virginia Beach Boardwalk are less than an hour away!



# Short Course (Aug 13 & 14) Topics Include:

- Beginners Track
- Apiary Track
- Bees as Business
- Electronic Hive Monitoring
- Excellence in Honey & Hive Products
- Queen Rearing (with Russian Queen Breeders Association)

### **Special Events:**

- Beekeepers' Beach Bash
- Tea with Celia Davis
- · Queen of the Sun Film Screening
- Honey Show and Awards Banquet
- Silent Auction and Dinner
- Trip to historic Jamestown, entry point for honey bees into North America
- Trip to St. George's Brewery and Apiary

### Bee Pollen Nut Brittle

by Carrie Schloss

Reprinted with permission from The Asheville Bee Charmer Cookbook by Carrie Schloss, Agate Surrey, August 2017.

When I started thinking about recipes for the *Bee Charmer Cookbook*, I knew I wanted to make a nut brittle that used honey in the base. I chose fir honey for this recipe because of the rich caramel flavor it adds to the end product.

This brittle is packed to the gills with nuts—can there ever be too many nuts? But the most special ingredient is the bee pollen that's sprinkled on top. It adds a depth and richness of flavor that is unforgettable. When I make it, I hide some, because it is gone before you know it!

Makes 1 baking sheet of brittle

### **Ingredients:**

3/4 cup fir honey

3/4 cup raw cane sugar

1/4 cup unsalted butter

½ cup water

½ teaspoon baking soda

½ teaspoon pure vanilla extract

½ cup salted, roasted cashews

½ cup roasted, shelled pistachios

½ cup roasted, halved pecans

½ cup salted, roasted peanuts

½ cup salted, roasted pumpkin seeds

½ cup roasted hazelnuts

½ cup bee pollen

### **Directions:**

Line a baking sheet with parchment paper and set it aside.

In a medium saucepan over medium-high heat, combine the honey, sugar, butter, and water and cook for 10 to 15 minutes, stirring occasionally, until the caramel is golden brown and registers 300°F on a high-heat instant-read thermometer.

Remove the pan from the heat and carefully add the baking soda (watch out as it will foam); stir until the baking soda is completely incorporated. Add the vanilla, cashews, pistachios, pecans, peanuts, pumpkin seeds, and hazelnuts. Stir to coat well.

Pour the brittle mixture onto the prepared baking sheet, and spread it in a thin layer using a heatproof nonstick spatula. Sprinkle the bee pollen on top.

Set the brittle aside at room temperature for about 45 minutes, until completely cool and firmly set. Break the brittle apart. Store the brittle in an airtight container at room temperature for up to 2 weeks or in the freezer for up to 6 months.

