Congratulations to Pennsylvania State Apiarist Karen Roccasecca for receiving a grant from the 2018 Farm Bill. The short title of project is “Native and Non-native Bee and Wasp Survey” and the project funding has been extended through June 2020.

Roccasecca noted, “For the first year’s project, we received $53,115. Most of the money will go towards survey supplies and shipping, as well as paying the salary of the taxonomist dedicated to identifying the insects collected from the survey. Funding for the second year of the project is $54,300. Most of this money will also be used to pay for the taxonomist’s salary, as well as a statistician’s salary (to see if there are trends, predictions, etc. at the end of the survey), and supplies/shipping. We hope it will give a nice overview of the locations and types of native bees, as well as detection of any invasive wasps/hornets. Sam Droege, Robyn Rose, and Heather Moylett are federal employees assisting with this project.

Pests can arrive in a variety of ways: among imported cut flowers, fruit, garden items, soil in potted plants, freight containers and on or in untreated lumber. Fire ants came in on potted mum plants (i.e. Philadelphia is a huge port city).

Many invasive insect species are quite adaptable to urban, suburban and agricultural habitats and are able to thrive in our environments. Invasive insects may be introduced to an area by accident. They may be hidden on or in imported items. The insects can then spread from that site on their own or with the help of trucks, cars, airplanes, boats, trains, etc. Deep water ports, international airports, trucking yards, and railways (spotted lanternfly likes to lay eggs on rusted metal); military bases, industry (packing material), and people (bringing in furniture or items from another country) are all possible introduction avenues for invasive insects.

In particular, Roccasecca is concerned about the Asian Hornet (*Vespa velutina*), a species introduced to France in 2004 through pottery or soil of an imported plant. It is spreading at rate of 60 miles per year. The United Kingdom is killing colonies as the hornets try to establish after flying English Channel. So far, there have been 13 confirmed sightings and 6 destroyed nests in the U.K.

And that hornet is not the only one: The Asian Giant Hornet (*Vespa mandarinia*), and its subspecies, including the Japanese Giant Hornet, (*V. m. japonica* and also known as a “yak killer”), are the world’s largest hornets, with a wing span of 3 inches.

Photos provided by Karen Roccasecca
The Asian Giant Hornet can fly up to 25 mph and travel up to 60 miles in one day. Its favorite “pastime,” according to Roccasecca, “is killing honey bees and eating larva” and has been documented killing forty honey bees in one minute.

So far, Roccasecca and her team have shipped sampling kits to South Dakota, Nebraska, Kentucky, Maine, Texas, Maryland, Arizona, California, Montana, Oklahoma, Louisiana, Massachusetts, Washington DC, Tennessee, North Carolina, Florida, Pennsylvania, and Guam. There are 11 State Apiarists/Department of Agriculture folks in this group.

These states/territories are probably going to participate as well: North Dakota, Michigan, New Mexico, Washington, Oregon, and American Samoa. Some states would like to participate, but they are too close to the locations where Rusty Patched Bumble Bee has been seen, so we are not going to sample there at the present time. Additional states and territories are welcome to join the survey if they are interested in participating. Most supplies and shipping are provided at no cost to participants.

Roccasecca hopes that by increasing the awareness and education about invasives, we can reduce the “panic” time when, in fact, someone sees or discovers an unusual, and possibly invasive, insect. Many port cities are the front lines of the arrivals: spotted lanternfly came in as an egg mass (looking like a blob of dried mud) on imported landscape material. So, this survey can be considered a second “line of defense.”
If a State Apiarist would like to do some informal invasive hornet/wasp surveying on his or her own, Roccasecca would be very happy to send the protocol to set up traps. The traps are very easy and inexpensive to run. The trap is a recycled one gallon white jug with a lid. The bait is brown sugar and water. The jugs are hung up in a tree with paracord or rope. Every two weeks, the contents of the trap are poured into a strainer and the insects are placed in a 4 oz. sample bottle with enough alcohol to cover them. The trap is refilled with fresh brown sugar water and rehung.

If he or she is interested in native bee sampling, Roccasecca would be happy to send these protocols to them as well. For this Farm Bill project, blue vane traps are being used. These traps may be hung on shepherd’s crooks or hung from trees.

But the PA Dept. of Ag has also done native bee sampling with bee bowls. These are small plastic (disposable-grade) bowls, which are painted either yellow or blue with special paint, which are put out in a sunny open area. The bowls are filled about 3/4th full with water and a drop or two of blue Dawn dish washing soap. Sometimes it is a good idea to place a small rock in the bottom of the bowl to keep it from blowing away. (Do not place bowls where lawn mowers or thirsty animals are likely to be!)

Place the bowls outside in the early morning and return at the end of the day, pouring the contents of the bowls into a strainer (or a small net used in fish tanks) and placing the insects in a 4 oz. sample bottle with enough alcohol to cover them. The paint is expensive and not very easy to find so do not throw the bowls away after use. The bee bowls can be set out as often as the surveyor would like to collect. At PDA, it was usually every two weeks in the same location all season.

It is important to make a note on the bottle and to have a written/computerized record of the site (address, GPS coordinates, etc.), date, type of trap and attractant for any survey conducted. Identified insects should be recorded with this information as well. Roccasecca noted that she would be happy to help any State Apiarist any way she can. She is hoping to have information available to put on the AIA website soon about some of the potential invasive pests of honey bees, the survey protocols, links to insect identification keys, etc. This information will also include powerpoints, pest alerts and more.

For more information, you can reach out to Karen Roccasecca at kroccasecc@pa.gov or 717-346-9567.
Deadlines:

- **June 26, 2019:** The University of Guelph (Canada) announces a new position, with application deadline June 26.

The School of Environmental Sciences (SES) at the University of Guelph invites applications for a tenure-track position at the Assistant Professor level.

The University is seeking qualified applicants in the field of entomology with a research focus in insect diversity, taxonomy and phylogeny in the contexts of agricultural applications, climate change, conservation, biodiversity, and environmental stressors. The ideal candidate will be familiar with and able to conduct research that integrates both morphological and molecular approaches. The successful candidate will be expected to build a robust research program and collaborate on a national and international scale. They will interact with the Curator of the University of Guelph Insect Collection and both utilize and build the potential in the Collection to address broad societal and systematic questions. Applicants must have a PhD in entomology with a publication record demonstrating expertise in insect systematics. Candidates will demonstrate significant potential for research excellence and will be expected to build a strong publication record in internationally recognized, peer-reviewed journals.

The position will require the development of a strong federally- and provincially-funded research program involving the mentoring of graduate and undergraduate students. It will involve teaching courses at the undergraduate and graduate levels, related to entomology. The successful candidate will demonstrate a clear potential for effective teaching, with classroom experience considered an asset. Strong communication skills are essential. Collaboration in research and graduate training, both within the School and University, and with federal and provincial ministries, is encouraged. Faculty in SES are expected to provide service to the University, scientific community, and to society at large.

The School of Environmental Sciences is a multi-disciplinary academic unit with researchers in a range of fields including: soil science, geology, agricultural meteorology, forest and ecosystem science, environmental microbiology, environmental toxicology, entomology and plant pathology. More information can be found on the websites for the School of Environmental Sciences, the Ontario Agricultural College and the University of Guelph: full details can be found here: [http://www.uoguelph.ca/facultyjobs/postings/ad19-28.shtml](http://www.uoguelph.ca/facultyjobs/postings/ad19-28.shtml)

- **September 8th—12th, 2019:** Apimondia 2019  
  The largest beekeeping conference in the world will be held in Montreal, Quebec, Canada this fall! More information about the conference can be found here: [https://www.apimondia2019.com/](https://www.apimondia2019.com/). Registration can be accessed here: [https://www.apimondia2019.com/registration/](https://www.apimondia2019.com/registration/).

There will be two meetings specifically for regulatory officials where topics of concern can be addressed. These meetings will be closed to the public so apiarists will have a space for open discussion and share their policies and protocols.
Congratulations of a different order go to Brandi Simmons, Florida Apiarist, for her recent wedding. We extend, at the same time, our sympathies for the sadness concerning your father, Andy Simmons.

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_Bee enthusiasts are rejoicing that the devastating Notre Dame Cathedral fire spared 180,000 honey bees residing on the roof. A trio of beehives has nestled on top of the cathedral’s roof for the past six years, the three hives were among several installed across the city to boost dwindling pollinator populations. The hives have been managed by Notre Dame beekeeper Nicolas Geant since 2013. Satellite photos confirmed the three hives made it through the fire. “The carbon dioxide (from smoke) makes them drunk, puts them to sleep,” Geant said. The bees were particularly lucky because the hives were located only 100 feet under where the roof was burning. If the hives had encountered temperatures of 145.4 degrees Fahrenheit, the hive wax would have melted and the bees would have perished._

— McKinley Corbley, _Good News Network (goodnewsnetwork.org)_
Honey Bee Health Coalition, April 17-18, 2019, Louisville, KY
Tammy Horn Potter welcomed the Honey Bee Health Coalition stakeholders to Kentucky. Mary Reed and Barbara Bloetscher also represented AIA

Presentations on Queen Breeding:
Selecting for Behavioral Resistance to Varroa Destructor -- Krispn Given, Apiculture Specialist, Purdue University Department of Entomology

- VSH, varroa sensitive hygiene, mite-biting/chewing, basics of breeding
- Varroa transmits DWV, other viruses; varroa still biggest honey bee killer
- Mite biting seems to be recessive trait
- Issue with open mating/stopping selection means the “mite-biting” trait quickly disappears

Breeding for improved varroa resistance to support honey bee health and crop pollination services -- Danielle Downey, Executive Director, Project Apis M

- The “holy grail” of beekeeping is finding bee that can help itself, get off chemical treadmill, breeding could solve problems that commercial beekeepers have had for decades
- With losses so high, beekeepers having to rebuild half colonies every year, and the demand for bees is outstripping the supply of queens for split hives
- Hawaii is great place for queen breeding because can breed year-round. Also, since there is no winter to act as natural mite pressure, it is a good place for mite research
- Controlling drones is hard part of breeding
- Miticides expensive, leave residues, increase possibility of resistant mites
- The VSH behavior is defined as behavior of a worker bee that opens a capped cell and pulls out pupae when varroa mites are reproducing. This is a different behavior from “mite chewing” behavior described by Krispn Given.
- The VSH trait was observed at USDA lab in Baton Rouge and researchers, notably Drs. John Harbo and Jeff Harris, tried to replicate/promote that trait in hopes of industry picking it up in their own breeding programs, but industry didn’t.
- After breeding, a research team in Hawaii began to test VSH stock against commercially available stock in side-by-side comparisons. Trials started in 2017 and expanded in 2018 to a few other states.
- Thus far, the researchers are seeing consistent results: good mite control but slightly lower honey production. The researchers have been able to reduce number of annual miticide treatments needed with stock in Hawaii
- Summation: This research looks promising and the team is looking for more partners and funding to scale up project.

Julie Shapiro’s quick sum: good progress being made with both traits (mite chewing and VSH), but issues of scaling and implementation; could be peek into the future of Coalition’s efforts
Sen. Paul Hornback and wife-beekeeper Pat Hornback (yellow shirt) talk about henbit, its importance as a pollen provider for honey bees. Sen. Paul Hornback discusses the Tobacco Diversification Program and the Kentucky Agriculture Development Board. Photos: Alli Langley (3) and Tammy Potter (1)