

The Pennsylvania Vector

Spreading News to the Vector Control Community

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Birds Use Cigarette Butts for Chemical Warfare Against Ticks

Is this a cigarette habit with some benefits? A species of urban bird seems to harness the toxic chemicals in cigarette butts in its fight against nest parasites – although there is a downside to the practice.

Constantino Macías Garcia at the National Autonomous University of Mexico, and his colleagues, have spent several years studying the curious cigarette habit in urban house finches (*Carpodacus mexicanus*). Initial evidence hinted that nicotine and other chemicals in the butts might help deter insect pests from moving into the nests – nicotine does have anti-parasite properties – but it wasn't conclusive.

To firm up the conclusion, Macías Garcia and his team experimented with 32 house finch nests. One day after the eggs in the nest had hatched, the researchers removed the natural nest lining and replaced it with artificial felt, to remove any parasites that might have moved in during brooding. They then added live ticks to 10 of the nests, dead ticks to another 10 and left 12 free of ticks.

They found that the adult finches were significantly more likely to add cigarette butt fibers to the nest if it contained ticks. What's more, the weight of cigarette butt material added to nests containing live ticks was, on average, 40 per cent greater than the weight of cigarette butt material added to nests containing dead ticks.

The results suggest that the finches are using the cigarette butts to "medicate" their nests against the ticks, says Macías Garcia. "Ectoparasites such as ticks and mites cause damage to finches – for example, eating their feathers and sucking their blood," he says.

"It's fascinating, and an exciting example of animals being innovative and making use of the materials available to them," says Steve Portugal at Royal Holloway, University of London.

However, Macías Garcia's earlier studies suggest the habit is harmful too. "The butts cause [genetic] damage to finches by interfering with cell division, which we assessed by looking at their red blood cells," he says.

"I think the anti-parasite effects the cigarette butts provide must outweigh any negative problems they cause," says Portugal.

"Alternatively, the genotoxic effects take longer to manifest, and the adult birds aren't aware of any problem."

Article Credit: Natasha Khaleeq, newscientist.com, June 26, 2017.

Photo Credit: Jerry Friedman



CWD Found in the Wild in Clearfield County

Submitted by: Tom Smith

HARRISBURG, PA - Chronic wasting disease has spread to free-ranging deer in an area of the state where it previously had been detected only in captive deer.

The Pennsylvania Game Commission today announced a free-ranging whitetail buck in Bell Township, Clearfield County, has tested positive for chronic wasting disease (CWD).

A news conference about the new CWD-positive deer and the Game Commission's response will be held on Thursday, July 13, at noon at the Game Commission's Harrisburg headquarters. The news conference will be available to view on the Game Commission's social media pages.

The CWD-positive buck was shot by a wildlife conservation officer June 7 on State Game Lands 87 because it showed signs of being diseased. Preliminary tests indicated the buck was CWD-positive, and the final results confirm the buck was infected with CWD, which always is fatal to deer and elk.

The buck was within Disease Management Area 3 (DMA 3), which was established in 2014 after surveillance by the Pennsylvania Department of Agriculture detected CWD at two captive deer facilities in Jefferson County.

Because this buck was located near the center of the 350-square-mile DMA 3, the DMA will not need to expand.

However, the Game Commission is immediately taking steps to increase CWD surveillance within DMA 3.

The Game Commission will be allocating Deer Management Assistance Program permits within DMA 3. Each hunter can purchase up to two of the 2,800 DMAP permits anywhere hunting licenses are sold by

requesting permits for Unit 3045.

The permits will become available very soon, likely by July 13.

These DMAP permits can be used to take antlerless deer on public and private lands within DMA 3 during any established deer season. Hunters must acquire permission from private landowners prior to hunting.

Harvest data from DMAP permits will augment CWD surveillance.

All known road-killed deer within DMA 3, and a portion of the deer harvested by hunters, already are tested each year for the disease. The Game Commission is looking to increase this sampling effort and obtain more-precise harvest-location information. Cooperation from hunters will be an important first step to make this happen.

The Game Commission also plans to use sharpshooters in DMA 3, in a small, focal area where the CWD-positive deer was found, in hopes of stopping the disease before it has a chance to grow and spread.

In Pennsylvania, CWD has been an increasing threat. The disease also exists among wild deer in the area of southcentral Pennsylvania defined as Disease Management Area 2. Twenty-five free-ranging deer tested positive for CWD during 2016. And an additional four CWD-positive deer have been detected since, raising to 51 the total of CWD-positives detected within the DMA 2 since 2012.

While the spread of CWD within Pennsylvania is a concern statewide and a threat to the state's deer and its deer-hunting tradition, this latest CWD-positive within DMA 3 is a concern also because of its proximity to Pennsylvania's elk range, which abuts DMA 3. More than 100 elk are tested for CWD each year and, thus far, the disease has not been detected among the state's elk.

"There is no vaccine to prevent deer or elk from contracting CWD, and there's no treatment to cure infected animals," said Game Commission wildlife-management director Wayne Laroche. "However, if we can remove the infected animals from this area so they are no longer coming in contact with healthy deer or shedding the prion that causes the disease, we may be able to slow its spread and minimize its effects on deer and elk, and the people who enjoy them.

"It's important our response is as effective and efficient as possible to attempt to curtail this disease before it becomes well-established in an area where it not only is a threat to our deer, but also our elk," Laroche said.

While CWD poses a serious threat to Pennsylvania's deer and elk, there is no strong evidence it can be transmitted to humans. As a precaution, however, hunters are advised not to eat the meat from animals known to be infected with CWD, or believed to be diseased.

There already is a prohibition on removing the high-risk parts of harvested deer from any DMA. Hunters who harvest deer and take it to a meat processor or taxidermist within a DMA are making certain that deer are available to the Game Commission for CWD surveillance.

Laroche said cooperating deer hunters within DMA 3 will play a key role in the CWD surveillance to take place there. If the harvest locations of sampled deer are known, it will be possible to more precisely target management actions, he said.

It doesn't cost anything to drop deer heads off for sampling, and if a sample tests positive, the hunter will be notified.

Game Commission Executive Director Bryan Burhans said it's important to respond quickly and directly to the

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Equine West Nile Virus Threat Remains

Submitted by: Tom Smith

PARSIPPANY, N.J. — The risk for West Nile virus remains. New data reveals that in 2016, there were 377 equine West Nile virus cases across the United States — an increase of 152 cases from 2015. Horses are at the highest risk for contracting West Nile virus during peak mosquito season, which occurs July through October in the United States. It's not too late to help protect horses against this devastating disease. Veterinarians and horse owners continue to trust West Nile-Innovator. No other vaccine has helped protect more horses against West Nile virus.

“Vaccination is extremely effective against West Nile virus and remains the most effective way to help protect horses against the disease — in conjunction with mosquito control,” said Kevin Hankins, DVM, senior veterinarian, Equine Technical Services with Zoetis.

When properly vaccinated, horses have shown to be 30 times less likely to contract West Nile.

West Nile virus is transmitted by mosquitoes — which feed on infected birds — to horses, humans and other mammals. Dr. Hankins said that the uptick in 2016 cases is likely due to the drought that occurred in 2015. Droughts can diminish water sources and increase the number of small, stagnant pools of water, presenting ideal breeding grounds for mosquitoes. During a drought, bird populations often decrease. As birds flock to wetter areas of the country, mosquitoes are left to feed on other warm-blooded animals nearby, such as horses.

When considering the 377 equine West Nile cases recorded across the United States in 2016, Dr. Hankins urged caution.

“The numbers are likely much greater,” he said. “Some states only report West Nile virus cases if the disease is presented in neurological form.”

For horses that have not been vaccinated or are overdue for vaccination, West Nile-Innovator can help provide the added protection horses need to stay healthy. A study demonstrated that separate administration of West Nile-Innovator and Fluvac Innovator® generated four times the immune response to West Nile than was produced by a big one-shot combination vaccine.

In conjunction with vaccination, proper barn management techniques also can help prevent West Nile, such as:

- Eliminate any mosquito-breeding habitats by removing all potential sources of stagnant water, such as in unused troughs, wheelbarrows, ditches and tarps.
- Hang fans throughout the barn where horses are stabled, as mosquitoes avoid moving air.
- Clean and empty any water-holding containers on a weekly basis.
- Apply insect repellent or bring horses inside from dusk to dawn during the peak mosquito feeding hours.

“It's a multistep protection process,” said Hankins. “Vaccination against West Nile is key because it's shown to be so effective, but horse owners also need to be aware of, and eliminate, risk of exposure to a potentially infected mosquito population.”

West Nile does not always lead to signs of illness in horses. For horses that do become clinically ill, the virus infects the central nervous system and may cause symptoms such as loss of appetite and depression. Other clinical signs may include fever, weakness or paralysis of hind limbs, impaired vision, ataxia, aimless wandering, walking in circles, hyperexcitability or coma. If horse owners notice signs or symptoms of West Nile infection in their horses, they should contact a veterinarian immediately. West Nile virus is fatal in 33 percent of horses that exhibit clinical signs of disease.

Don't miss the opportunity to help protect horses against this devastating disease. To learn more about proper equine vaccination and West Nile-Innovator, please visit WestNileInnovator.com.

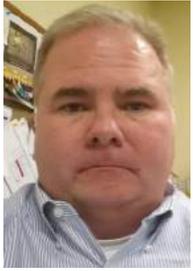
Article Credit: Zoetis, Morning Ag Clips Farming News, Harvested Daily, 7/12/2017



Horses are at the highest risk for contracting West Nile virus during peak mosquito season, which occurs July through October in the United States. (Wikimedia Commons)

What's Happening in Region 1

Submitted by Ray Delaney



Bucks County Health Department reports six cases of rabies to date this season (3 raccoons, 2 skunks and a fox). They are already seeing dozens of high Culex trap counts in the first few weeks of trapping.

Delaware County: The wet spring has kept field staff busy with larval mosquito sampling and larval

control efforts. Much of our effort has been focused on drainage ditches and temporary water retention areas around new housing construction sites. Adult mosquito trapping has been underway since early May, but so far no West Nile Virus has been detected in Delaware County mosquitoes in 2017. Delaware County has received a shipment of the SLAP Program brochures and door hangers provided by Central Life Sciences. These are being distributed to the local municipalities to be

available in libraries and other public centers.

Philadelphia would like to welcome Mark Baker as a Mosquito Surveillance and Control Technician. Mark joins the program with almost ten years experience working with mosquitoes in New Jersey, most recently as an Inspector with Mercer County Mosquito Control.

What's Happening in Region 2

Submitted by Louise Bugbee



Summer has arrived in fits and starts. We have had a few days in the 90's and then a week in the 70's, nights in the 50's, then a few days in

the 90's and back down again. The mosquitoes make themselves known on the hot days. As of this writing, June 16, we have had one positive collected in the region from Lackawanna County. Grant funded surveillance and treatment activities also continue in Lehigh, Monroe and Northampton.

One ubiquitous question we get as we do our rounds has been about ticks. The general furor about this being a "bad" year for ticks and Lyme disease seems to have been ignited by a paper from the Cary Institute in the Hudson Valley. In it, the investigators connect high acorn yields with more ticks due to increased food availability for mice. More mice, more ticks, more Lyme. Of course the media picked up on it and wanted answers and some affirming data for Pennsylvania. Unfortunately, we don't have it be-

cause our efforts to initiate a statewide tick surveillance program are again on hold. There was also a dread about Powassan after that hit the news. But anytime the print or television media talk about ticks it gives us a good opportunity to do some public education about tick borne disease prevention.

In the Lehigh County region we are continuing our collaborative tick research project funded by the Lehigh Valley Health Network in conjunction with Muhlenberg College. We have been collecting LOTS of nymphs. It's too soon to compile and compare the data with previous years to make a definite statement about tick abundance; but I am pretty sure the num-

bers are not falling. Nicole Chinnici from the Northeast Wildlife DNA Lab at East Stroudsburg University reported an increase in submissions for tick testing. Time will tell. We'll have to wait for the clinical data.

Black fly control began in Lehigh and Northampton counties in May. Rabies continues to be a problem but the newest case counts are not yet available on the PADOH site. Pennsylvania is number one in rabid cats. I have four felines from whom I feel no threat of rabies infection. But I recently had a bat in my house and that, I am embarrassed to admit, immediately sent me into a rabies-phobic panicked female mode. I did all the wrong things. Instead of chasing the poor creature around with a broom like a crazed cartoon character, I should have first turned off the ceiling fan. Maybe then it wouldn't have gone upstairs and been dive bombing me as I screamed up and down hall frantically closing bedroom doors in an attempt to isolate it and make it go back down the stairs where, of course, the ceiling fan continued to inhibit its exit. Then I lost sight of it. Perhaps it went up into the



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attic bedroom, which happens to be where I sleep. So I ran downstairs and opened doors and window but still neglected to turn off the fan. Once outside I made hasty calls to find alternate sleeping arrangements for the night. No way was I staying there. I cautiously reentered, closed the windows and doors, grabbed my keys and drove away.

Upon returning the next morning with an assistant, there was no sign of the bat. It must have fled while I was outside. I have since learned that the proper response would have been to simply turn off the fan, turn off the lights, open the doors, stand outside and clap my hands to help the bat echolocate and escape being terrorized by an irrational vector control professional with a momentary lapse of reason. I'm sure I scared the bat just as much or more than it scared me. And for that, I am sorry. They have enough trouble.

I'm not afraid of skunks, though they often carry rabies, too. They do a great service by digging up the grubs in the lawn. Those folks who are enamored with great expanses of perfect turf are upset by this. I don't mind. The groundhogs under the shed are a different story. They decimate beans, lettuce, chard and lots of other garden crops. Kathy Uhler at the Pocono Wildlife Rehab Center offers a great method to discourage skunks, groundhogs, raccoons and other animals from setting up house-keeping under your porch, deck or outbuildings. All they are looking for is a safe, dark, quiet haven. Kathy advises placing a loud radio and a

blinking LED light in the hole. It won't be long until the animals decide the neighborhood is going downhill and relocate to a more peaceful setting. Use of Predator Urine is another technique to discourage unwanted squatters. It is much easier than trapping and more humane than murder. The website for the Predator Pee Store will match predator pee to problem pest. www.predatorpeestore.com One caveat – be sure the animal is not at home when you apply the pee. It may be reluctant to cross the barrier or it might just be scared to death. Then you have a different sort of problem – retrieving a ripe carcass from far under the porch.



What's Happening in Region 3

Submitted by : Katie Seymore



This spring WNV season saw some early activity with Berks having the first positive in the state in mid-April and

York the third positive a month later. Now writing this in June, the positives are really starting to roll in. It will be interesting to see how the summer unfolds, but we are ready with new and old sprayers alike. DEP and County personnel again gathered for the ULV Calibration events this May provided by ADAPCO with a demonstration on the new Promist sprayer by

Clarke.

Counties are wrapping up their Zika Grant funded habitat reduction programs. Franklin County collected almost 4,000 tires and helped Washington Township create an ordinance discouraging artificial mosquito breeding habitat in backyards. Cumberland is conducting more outreach events and will again visit the Carlisle Farmer's Market with an educa-

tional stand in June.

Region three would like to welcome Olivia Bingeman who has taken over Lebanon/ Lancaster's program. We also congratulate former WNV intern Stephanie Summers who joined Cumberland County as a full-time technician, where as I transferred to Adams.

Finally, in this line of work we run into some interesting things in the field and you never know what you might find when responding to a complaint call. Thankfully, Cumberland was given a heads up when a municipal official called in with concerns of mosquito breeding habitat... which was also home to a pet alligator. Crikey!

What's Happening in Region 4

Submitted by **Christian Boyer**



Through the first half of July, there has been a total of 502 pools tested for West Nile virus.

This is nearly

200 more than last year during the same time period. This can be attributed to the addition of Northumberland, Snyder, Union, Montour, Columbia and Lycoming Counties.

Region 4 has collected 14 positive mosquito samples and 2 bird positives to date. The breakdown of mosquito positives are as follows:

Centre (5), Columbia (1), Lycoming (5), Montour (1), and Union (2).

Both avian positives were crows collected in Centre County. The first mosquito pool was collected in Centre County on May 23rd. This ties the earliest date a mosquito has tested positive in Region 4.

There have been 24 *Aedes albopictus* collected in and around Bloomsburg, Columbia County. This is triple the specimens that were collected in the same area in all of 2016. There were only 11 specimens collected in the entire region last year.

All Region 4 Counties participated in DEP's Mosquito Academy that was held at the Northumberland

County Conservation District on May 10-12. Counties were provided with training in all facets of running an effective mosquito disease control program. The Academy was well received.



What's Happening in Region 5

Submitted by **Mary Vibostok**



Chelsea Gross of Latrobe has joined the Westmoreland Conservation District's West Nile Virus program.

Chelsea has a B.S. in Biology from Saint Vincent College.

She has experience sampling streams for macroinvertebrates, forest regeneration studies, and wildlife biology education programs. Chelsea previously worked at Powdermill Nature Reserve, the environmental research center of Carnegie Museum of Natural History, as an intern and educator. Chelsea grew up as a 4-H member in Westmoreland County, in which she showed her horses and dogs, and competed in archery shoots. Chelsea enjoys spending her time in the outdoors hunting, camping, fishing, and barrel racing.

Allegheny County kicked its vector control season into gear by training 165 staff from 64 municipalities on current public health issues and by larviciding 60 wetlands in 25 municipalities. In the first week of June, County Health department staff treated 7,500 catch basins in historic hot spots of West Nile activity in the City of Pittsburgh. One student and two interns from Chatham University and Pitt's Graduate School of Public Health are already working on projects to determine the abundance and distribution of mosquitoes that pose a nuisance and potential for the spread of disease.

With 546 properties listed as "vacant or abandoned" in the city of Johnstown alone, the hope for the Vector Control department is that mosquito breeding habitats will be removed through a new program in Cambria County. County leaders continue to combat a county-wide blight-

ed property problem by adding a \$15 fee for recording deeds this year. The money will be put into a fund to tear down properties throughout the county that are considered "blight". County leaders expect approximately \$120,000 to be available annually through this initiative. It is a grant based program with each municipality responsible for identifying properties and following the protocols and applying for the dollars. In February, Cambria County also saw the opening of the 1889 Jefferson Center for Population Health in downtown Johnstown---launched as the "real work of a project to improve the health of the entire region." Notably, included in the major health concerns for the region (Cambria and Somerset counties) were Zika and Lyme disease.

What's Happening in Region 6

Submitted by Ted Bean



The DEP West Nile Virus Program (WNV) is no longer conducting routine surveillance in unfunded counties. In the Northwest Region only Erie and

Lawrence have WNV funded program.

Erie County reports a high number of calls that the public think are

mosquitoes but turn out to be midges. This always happens but the incidence is much higher this year. *Culex sp.* numbers are also higher than normal for this early in the year.

Foggers were calibrated and droplet tested at Moraine State Park on May 30th. The foggers were generally found to be in very good condition.

Rabies surveys are being filled out online by Western PA residents (Go to : <https://www.surveymonkey.com/>

[r/WESTPA_RABIES](#) to take a look at the survey .

Two Blackfly treatments were made (weeks of May 18th and June 16th) on the Allegheny River, Tionesta Creek, Oil Creek, Conewango Creek and French Creek. One treatment was made on the Clarion River (May 19th), Neshannock Creek, Slippery Rock Creek and Connoquenessing Creek (June 15th).

Entomologists Discuss Discovery's "Mosquito" Documentary:

A Live-Tweet Recap

Submitted by Andy Kyle

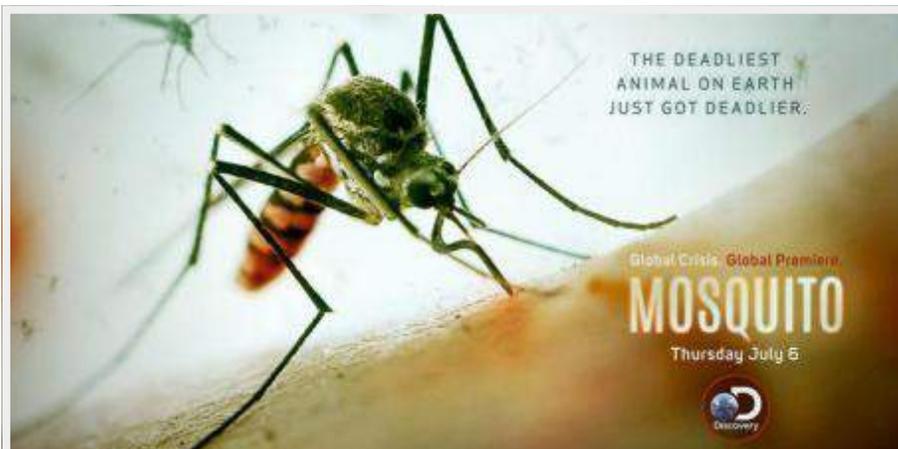
The old adage "bad press is better than no press" has a long history, and it surely applies to coverage of insects broadly and insects that are harmful to humans, more specifically. If you missed the Discovery channel program Mosquito that aired Thursday night, July 6, then you missed a chance to see some of that press.

As an attempt to explore what was

factual and clearing up any potential fear-mongering or errors, a group of mosquito researchers got together and live tweeted the event. If you're not familiar with a live tweet (don't worry, you're probably not alone), it uses the social media platform Twitter to facilitate real time discussion around a central topic or event. In this case, I was joined by three other mosquito researchers who use Twitter for mosquito-related information: Cameron

Webb, Ph.D., medical entomologist at the University of Sydney, Australia (@Mozziebites); Jason Rasgon, Ph.D., professor of entomology at Pennsylvania State University, (@vectorgen); and Autumn Angelus, biologist at the Salem County Mosquito Control Department in New Jersey (@AutumnAngeleus). Participants brought different perspectives to the event, including research, outreach, control, and surveillance, and based on their interests in mosquitoes (and other stuff) brought lively discussion to the topic.

Our live tweet had a couple of main goals: to comment on what the show got right and what it got wrong and to facilitate a wider discussion on mosquitoes (something we assumed would be difficult for a 90 minute television show). In both cases, we hoped our tweets would start the conversation, not replace it. Note that tweets surrounding the event can be found using #skeeter and via individual participant accounts. What *Mosquito* Got Right - Mosquitoes are not all bad!



The Discovery documentary Mosquito brought some well-deserved attention to mosquitoes and the human disease pathogens that they transmit around the world. (Image courtesy of Discovery)

Article Credit: Entomology Today, entomologytoday.org, July 10, 2017.

The High-Tech Device That's Like a Bouncer for Mosquitoes

Submitted by: Matt Helwig

Dotted around Houston, hidden in overgrown backyards and piles of old tires, are what look like 10 tiny models of Hollywood's iconic Capitol Records building.

They are full of recording gear, but not to capture the vocals of Frank Sinatra or the Beastie Boys.

These high-tech devices catch mosquitoes — though not in big batches, like typical traps. They catch them one by one, each in its own compartment, after inspecting each mosquito's wing beats to be sure it's a species that researchers want.

"We were the first to have these," said Mustapha Debboun, director of mosquito control for the Harris County public health department. "I saw something on the internet about them, and I said, 'Whoa — can I get some?'"

"They've been wonderful," he added. "Why would I want to collect a thousand nuisance mosquitoes if I can avoid it?"

The new traps, made by Microsoft, overcome one of the most frustrating aspects of insect surveillance: There are 56 species of mosquitoes in this buggy bayou city, and conventional traps suck in nearly all of them.

Entomologists want only a few disease-carrying types, including *Aedes aegypti*, which carries Zika and dengue, and *Culex quinquefasciatus*, which spreads West Nile Virus.

To find them, scientists must freeze whole batches caught in the usual traps and tediously hand-sort them with tweezers under a microscope.

Making matters worse, most traps suck the insects through a

fan and then whirl them around a mesh basket for hours.

"The white scales get rubbed off, so you lose the white lyre on the back that tells you it's *aegypti*," said Pamela Stark, a county entomologist. "June bugs get pulled in and stomp around like cows."

The Microsoft trap, by contrast, has 64 compartments, arrayed like studio apartments in a skyscraper. When an insect flies in, it crosses an infrared beam that reads the pattern of the shadows thrown by its buzzing wings, said Ethan Jackson, a computer scientist who leads Microsoft's Project Premonition, which created the trap with advice from mosquito experts at the Bill and Melinda Gates Foundation.

If it's a species the county wants, a clear plastic door shuts "like a Venus fly trap," Dr. Jackson said. The trap can catch the right species almost 90 percent of the time. Each compartment also records and uploads to a website the time, temperature, humidity and ambient light — data that records when each species hunts for blood, which is a good time to spray.

The first 30 prototypes, of which Houston has 10, cost several thousand dollars each, Dr. Jackson said. But he hopes to get the price down below \$300,

so even poor countries where Malaria and Yellow Fever kill thousands of victims could afford them. Selling traps is not the point, he explained. He has a far more ambitious goal: to have thousands of them around the world gathering viral DNA the way Google Street View gathers pictures — for the value of the data.

He was thinking about Ebola's long migration from central Africa to Guinea, he said, when he had an idea.

Animals are full of diseases that infect humans, but it's tricky to get blood samples from gorillas, migrating birds, cave-dwelling bats, poisonous snakes and so on.

"Then I realized that's a mosquito's full-time job," Dr. Jackson said. "There are over 3,600 species, but if we can catch the right ones and do metagenetic sequencing on all the DNA and RNA we find in them, we can see the diseases on the move."

Research efforts like the Global Virome Project are trying to find and sequence every virus that might threaten mankind. Mosquitoes, he suggested, could make that go much faster "by being their field biologists."

Article Credit: Donald G. McNeil Jr., Global Health, June 19, 2017 The New York Times.



A mosquito trap created by Microsoft has 64 chambers that can trap individual species of mosquitoes. Photo Credit Michael Stravato for The New York Times

Boozy Beetle: the Camphor Shoot Borer

Submitted by: Jacqui Hakim

Every now and then entomologists get calls that border on the bizarre. Last week I received an email from a citizen in far east Texas. He was having problems with what he said were “insects boring into his riding lawn mower gas tank”. Of course my first reaction was that insects don’t eat plastic, nor do they drink gasoline. Why should they be boring into a gas tank? But the caller had photographic proof. Not only did he have pictures of the holes, he was able to pry about 15 of the crazy insects from the plastic can and take pictures of some of them.

And this wasn’t an isolated case, according to the caller. His neighbor claimed to have had a similar experience with his mower being damaged by these same little pests the previous spring.

I’ve learned that being good at my job doesn’t mean that I have all the answers; but it does mean I need to know where to go for them. In this case I got lucky. I put out an email inquiry about gas sniffing beetles to colleagues, and immediately got replies.

Several of my fellow entomologists recalled a publication from 2011 by Chris Carlton and Victoria Bayless at the Louisiana State Arthropod Museum. They published a scientific note describing cases where a small beetle had been found boring into plastic gas cans. The authors identified the beetle as a type of bark beetle called camphor shoot borer (CSB), *Cnestus mutilatus*. (The finding impressed my Louisiana colleagues enough to have the can permanently stored at the Louisiana State Insect Museum.)

As happens too often these days, the CSB is yet another insect that’s not native to this country. It was first reported in the U.S. in 2004, and is now found throughout the Southeast



Cnestus mutilatus, the Camphor shoot borer, is a stubby little (3-4 mm) insect that normally bores into trees. Photo courtesy Kira Metz, USDA/APHIS.

from NC to TX. It normally feeds on a variety of hardwoods, especially sweetgum. In Texas it’s more likely to be found in the eastern part of the state.

One entomologist pointed out that he has noticed these beetles often come to his alcohol-baited traps used to collect other bark beetles. Most gasoline these days contains alcohol, so, putting two and two together, we can assume that alcohol is likely what’s attracting these little guys to lawn mowers.

How can we use what we know about this insect to prevent it from ruining lawn mowers, and perhaps causing fiery mayhem from Charlotte to Houston? A glance at the collection data stored on BugGuide suggests that this beetle is active primarily in the spring (March to June). Storing gas canisters

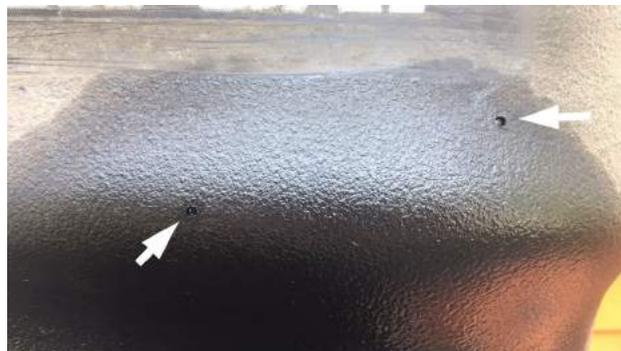
and mowers in enclosed sheds or under some type of tarpaulin may be helpful, especially in the spring. Keeping the outside of the plastic fuel canisters free of spilled gas also might help.

In the case of our caller, his mower was stored in a half open car port setting. If he could find gasoline without ethanol he might not be plagued any more; but these days that might be harder than building a new shed for the mower.

Coincidentally, this week there’s a new report of an insect that actually does eat plastic. The wax moth, *Galleria mellonella*, is a caterpillar that normally bores into bee hives and consumes and digests the hive wax. According to researchers at Cambridge University, the caterpillars are able to break down the chemical bonds of plastics much like they do wax. The biochemists are so intrigued about the possibilities of a moth that can live off of our plastic waste that they have patented their discovery.

So a toast this week to bizarre insects! Boozy beetles and the plastic eating caterpillars may both like to bore, but they are definitely not boring.

Article Credit: Mike Merchant, Insects in the City, Texas A&M AgriLife Extension, <http://citybugs.tamu.edu>, April 27, 2017.



Two holes (see arrows) in the gas tank of a riding mower made by the exotic camphor shoot borer, *Cnestus mutilatus*. Photo by Adam Sheffield.

Notification of Pesticide Treatments in Schools

Pennsylvania's Act 36 of 2002 amended the Public School code of 1949 by adding to section 772.1, Notification of Pesticide Treatments at Schools. This act provides the pesticide certified applicators and the school with specific responsibilities.

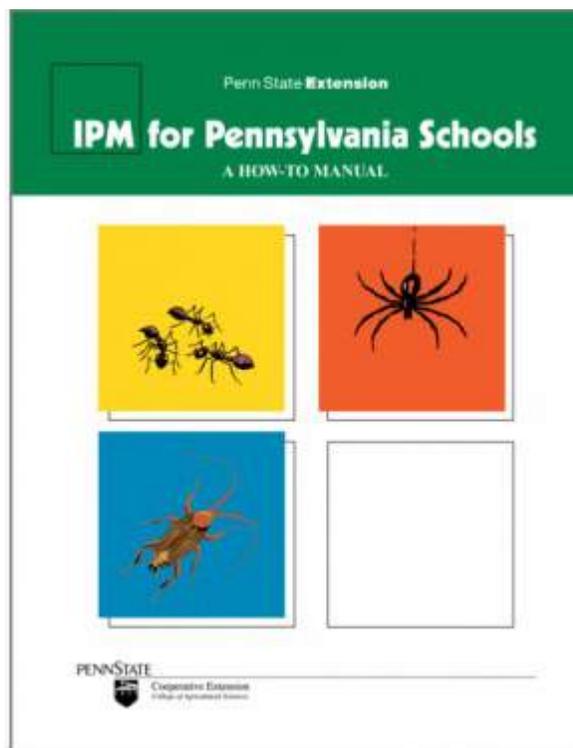
The legislation states that prior to a pesticide application, the pesticide certified applicator is to supply to the chief school administrator or building manager:

1. A pest control information sheet containing the date of treatment, the name, address and phone number of the applicator and the pesticide used and
2. A pest control sign at least 8 1/2" x 11" in size.

The school district is responsible for:

1. Posting the pest control sign in an area of common access where individuals are likely to view the sign at least three days before and two days after each planned treatment.
2. Provide a copy of the pest control information sheet (by hard copy or e-mail) to every individual working in the school building at least 3 days before treatment.
3. Provide notice to the parents or guardians of students enrolled in the school at least 3 days before each planned treatment. The notice is to be provided to all parents or guardians using normal school communications or to a list of interested parents or guardians who, at the beginning of each school year, or upon the child's enrollment, requested notification of individual applications of pesticides.
4. Prohibit applications of pesticides within a school building or on school grounds where students are expected to be present within 7 hours following the application, except where pests pose an immediate threat to the health and safety of students or employees. In this case, the school may authorize an emergency pesticide application, and then notify by telephone any parent or guardian who has requested such notification.
5. Maintain detailed records of all chemical pest control treatments for at least 3 years.

Pennsylvania Department of Agriculture Contact:
Cathy Thomas, IPM Coordinator, Integrated Pest Management,
School IPM, Greenhouse, Vegetable IPM
(717) 772-5204 caththomas@state.pa.us



IPM for Pennsylvania Schools: A How-To Manual includes extensive pest management information on common building pests, including ants, rodents, flies, spiders, and roaches, as well as information about managing weeds and pests on fields and other school grounds. While aimed primarily at school administrators and maintenance personnel, many of the principles and concepts discussed can help manage pests in any building or facility.

This manual may be purchased for \$10.00 at:

<https://extension.psu.edu/ipm-for-pennsylvania-schools-a-how-to-manual>

(Continued From Page 2)

serious threat CWD represents. Response measures in areas where CWD is known to be present improve the chances of limiting the disease to a few areas as opposed to many, he said.

"For the sake of our deer and elk, and their importance to hunters and nonhunters alike, we must do all we can to control this threat in the Commonwealth," Burhans said.

PA Game Commission Press Release 7/12/2017 <http://www.media.pa.gov/Pages/Game-Commission-Details.aspx?newsid=138>

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Calendar of Events

October 24 - 27, 2017: National Pest Management Association Annual Meeting, Baltimore, MD

November 3 - 4, 2017: Pennsylvania State Beekeepers Association Annual Meeting, State College, PA

November 5 - 8, 2017: Entomological Society of America Annual Meeting, Denver, CO

November 7 - 9, 2017: PVCA Conference, State College, PA

November 12 - 15, 2017: Florida Mosquito Control Association Conference, Duck Key, FL

December 4 - 6, 2017: Northeastern Mosquito Control Association Conference, Plymouth, MA

February 26 - March 2, 2018: American Mosquito Control Association 84th Annual Meeting, Kansas City, MO



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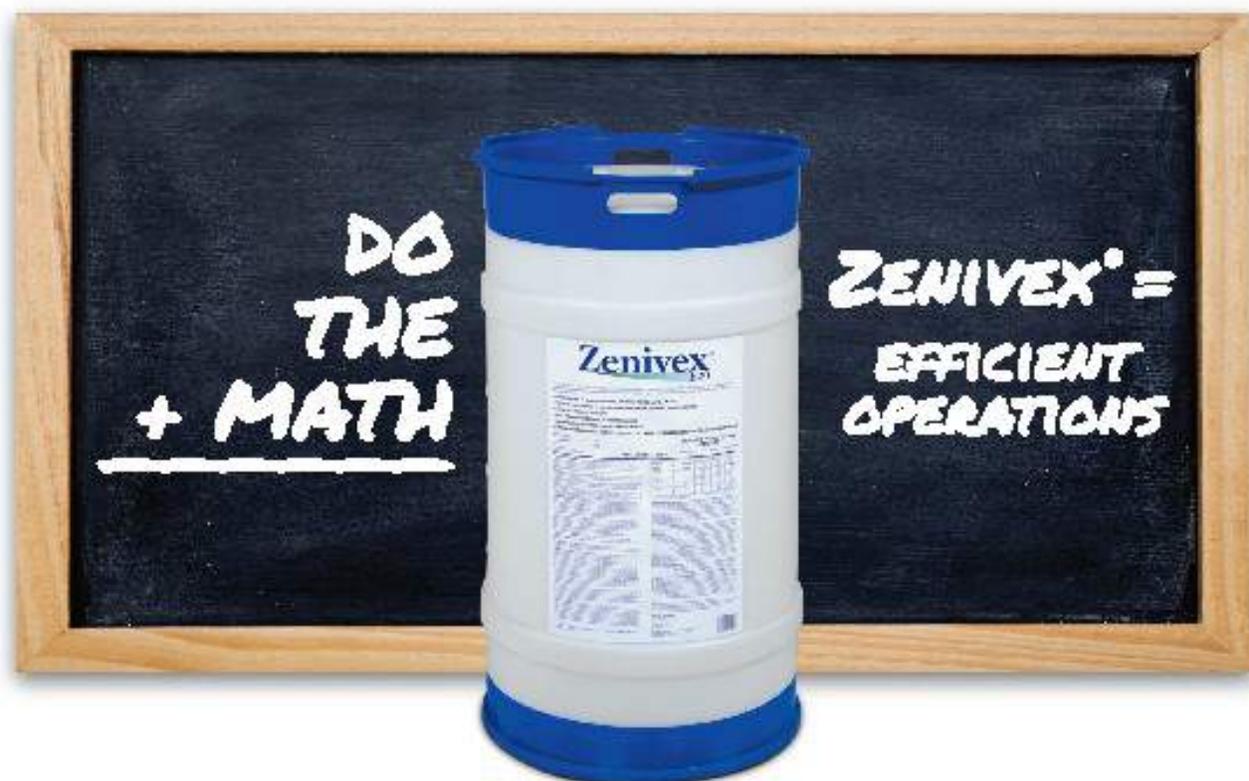
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www.pavectorcontrol.org

The Pennsylvania Vector is an informational news letter, written and produced for the purpose of providing the members of the PVCA with updates on activities conducted by this group and to highlight innovations made in the field of vector control. Articles herein have been reviewed for content and to the best of my knowledge contain the most current information available. The Pennsylvania Vector will be mailed to organization members, with past editions available in PDF format on the PVCA web site at www.pavectorcontrol.org.

Items posted in "The Pennsylvania Vector" are submitted by the general membership and staff. Posting herein allows for the widest dissemination to all members of the organization. Should a listed event be cancelled or rescheduled (after publication), revisions will not be printed or mailed to the membership as part of the News Letter process. These revisions should be submitted as soon as possible by email or fax to the PVCA web site.

Organizations are encouraged to submit News Letter articles and can do so by contacting this office. Cut-off dates : Feb 15th, Jun 15th, and Oct 15th. Publications will be issued March, July, and November.

Remembering Jane Huffman: A Dedicated Teacher, Researcher and Scholar



Jane Eva Huffman-Roscoe, 65, of Knowlton, New Jersey passed away July 25, 2017. Jane Huffman was born in Derby, Connecticut to Jane and George Huffman on January 16, 1952. She attended high school at St. Joseph's and graduated in 1970. Jane went on to earn her Undergraduate Degree and Master's of Science from The University of Connecticut all while playing for the now famous women's basketball team. She started her PhD at the University of Delaware and then transferred to Rutgers's Newark to complete her studies in Microbiology. A study, that like much of her research throughout her life, involved time in the field and collaboration with her husband, Doug.

Jane began her career teaching at Rutgers's University, but was fortunate enough to find a home at East Stroudsburg University in 1986, just across the river from home. Over the course of her 29 year career at ESU, Jane taught more students about the joys and wonders of science than her collection of student master theses lining the bookshelf can do justice. Near the end of her career she established the Northeast Wildlife DNA Lab at ESU. A lab that has served the Commonwealth of Pennsylvania as an indispensable source for forensic analysis in state wildlife crimes and the larger community with the in home diagnosis for the presence of Lyme Disease in ticks. Jane's heart and soul was in teaching. She cared deeply about ESU and her students.

PRESIDENT'S Corner

Leah Lamonte



Don't forget to save the dates for our fall conference taking place November 7-9, 2017 at the Days Inn in State College. Please take note that the meeting is Tuesday through Thursday because Friday is a government holiday. The agenda for the meeting is coming together but there is still time if you would like to recommend a speaker or topic. Please email me at

leah.lamonte@alleghenycounty.us with any suggestions. Stay safe out there and we will see you in November!

Leah Lamonte

EDITOR'S Corner

Tom Smith



As plans are being make for our fall conference PVCA will also have a change in leadership. Due to this, PVCA will be looking to fill the newsletter editor's position. If you are interested please email me at TLS35@psu.edu.

I look forward to seeing everyone at our upcoming conference.

Tom Smith