



BEEKEEPING NEWS

July, August, September 2014

a local chapter of NORTH CAROLINA STATE BEEKEEPERS ASSOCIATION, INC.

•Meetings & Programs

July 8th 6:30pm...\$2 hotdog and hamburger nite

Everybody requested to bring a side or dessert.

Kurt Bower, Jack Fleming and Rob Jacobs present "20+ Hives by Accident or Design!"

Aug 12th 7:00pm...No meal

Will Hicks NC apairy Inspector will speak to evaluating and preparing hives for winter.

Sept 9th 6:30PM...covered dish meal

Caydee Savinelli Pollinator and IPM stewardship lead for Syngenta will speak on Syngenta's efforts around honey bee health and Operation Pollinator

The Remedy Chicks

Time-tested home remedies and the science behind them

One of Honey's Health Benefits: Healing Those Summer Scrapes

By **Barbara Brownell-Grogan** Published Jun 20, 2014

If you've gotten into a summer scrape, literally, you'll need to know the basics for healing — and reaching for a jar of honey is one of them. Summer is a time for cuts and scrapes, both for kids and adults. We're outside weeding, trimming, going barefoot, and skateboarding — and things happen: We fall, we slip, we scrape on the picnic table edge, we spear ourselves with the barbecue fork. The two operative words for dealing with a cut (laceration) or scrape (abrasion) are:

1. Clean. 2. Immediately. First, let a little blood flow out — this actually helps heal the wound. Then pour water over it, wash it with mild soap, and rinse it again. (Don't use antibacterial soaps that contain triclosan, which can be bad for you.) Carefully remove any grass, asphalt, or other solid material that might infect the wound, and rinse again. If the scrape or cut will come in contact with daily dirt, be sure to cover it with gauze and tape. In the case of a deeper, freely bleeding cut:

Step 1: Staunch the flow. With a clean piece of gauze or cloth apply firm, steady pressure with your hand. Hold it for 5 minutes, helping the blood clot.

Step 2: Try to hold the bleeding part — usually an arm, hand, or leg (as you're lying down) above your heart.

Step 3: Don't peek at progress: This disrupts the clotting and healing process.

Step 4: If blood soaks through the gauze, don't change it. Just pile more on top, and keep pressing. Once the flow has stopped and the cloth sticks to the blood, just leave it alone. Honey, too, has these properties and has been used to treat cuts, scrapes, and deeper wounds for centuries. The ancient Egyptians even buried it with the dead for use in the afterlife. A recent test of honey found in one tomb showed that its antibacterial properties were still intact!

With advancements in creams, gels, and ointments over the past century, honey's health benefits were overlooked. But it's making a comeback. Honey-impregnated dressings are being applied to the most stubborn wounds. Manuka honey, made by the bees that feed on the New Zealand manuka bush has especially high antibacterial activity, and has even been used to treat the drug resistant *Staphylococcus aureus* called MRSA.

Try this honey-aloe remedy on your next backyard bump, then put up your feet as the dynamic duo works its magic. While featured in our 500 Time Tested Home Remedies and the Science Behind Them, this special mix was recorded as early as 70 B.C. by the Roman naturalist Pliny the Elder (minus the refrigerator): Blend 1 tablespoon of honey with 1 tablespoon of fresh Aloe vera gel or commercially prepared aloe gel (with at least 99 percent Aloe vera).

Genetically-Modified Honey Bees: A Key Technology for Honey Bee Research

June 11, 2014 by [Entomology Today](#) 4 Comments Photo by Alexander Wild.



By David O'Brochta

A breakthrough in the efforts to genetically modify honey bees was recently reported by Christina Schulte and colleagues from Heinrich Heine University in the *Proceedings of the National Academy of Sciences of the United States of America*.

Schulte et al. reported the creation of a honey bee containing a “foreign” gene — in this case, one that made some of the cells in the bee glow. This is a first in bee research. These researchers did not establish a colony of genetically-modified bees; they only showed that genetically-manipulated queens could produce genetically-modified drones in the lab. It was a proof of concept.

We have known the genome sequence of the honey bee, *Apis mellifera*, since 2006. The bee genome helps bee biologists learn how honey bees tick, and it has already provided insights. The genome is rich in genes associated with smell, but it has relatively fewer genes associated with taste and immune functions, reflecting evolutionary adaptations associated with their unique lifestyle.

Using genetic technologies in the laboratory to actually manipulate the bee genome in living bees will lead to deeper insights, such as how they fight infections like foul brood disease or parasites like *Varroa* mites, as well as the genetic basis for bee behavior. Imagine you know a little bit about cars and you want to figure out what makes them run. A manual is available, but it's in some kind of code. One approach would be to take a hammer and, starting with one part at a time, break things and then see how the “mutated” car functions.

“Oh look, now it doesn't start — that must be a starter thingy,” you might deduce.

“Now all the lights and the radio don't work — that must be an electrical thingamabob.”

And so on. Pretty soon you would know a lot about how the car works and the role of many of its parts, and the coded manual would make more sense too.

This is pretty much how geneticists might approach the problem of understanding how bees function. Geneticists would not use a hammer, but they would use genetic technologies to manipulate the genome of living bees to see how those alterations affected the organism. Today there are many technologies that enable scientists to insert genes into chromosomes. In the case of bees, applying those technologies has proven very difficult. This is because insect-genome-modification technologies require physically injecting these technologies (usually bits of DNA) into honey bee eggs, having the eggs hatch and develop into fertile queens, and then getting the queens to reproduce. However, bees do not like having their eggs injected.

The key to Schulte et al.'s success was their innovative approaches to manipulating and controlling bee reproduction and behavior in the laboratory so they could successfully inject their eggs. They have forged an important path that others can follow, albeit a challenging one.

Just as the human genome enables human biology to be understood for the purposes of developing therapeutics and solutions to unwanted conditions, these results represent the beginning of a similar phase of bee research.

Congress Wants to Save Honeybees by Banning Some Pesticides

At a hearing in April held by the House Agriculture Subcommittee on Horticulture, Research, Biotechnology and Foreign Agriculture, lawmakers heard from the Agriculture Department and the pesticide industry.

Testimony focused either on the Varroa mite, best management practices or on the need for neonicotinoids. “The chemical class, when used properly, is vital to the success of our industry,” said Jeff Stone, executive director of the Oregon Association of Nurseries, in his testimony.

David L. Fischer, manager of Bayer’s bee care center, underscored the complexity of the problem, saying no one factor was to blame. “Contrary to the opinion of some anti-pesticide groups, extensive research has shown these products do not represent a long-term threat to bee colonies,” Fischer said.

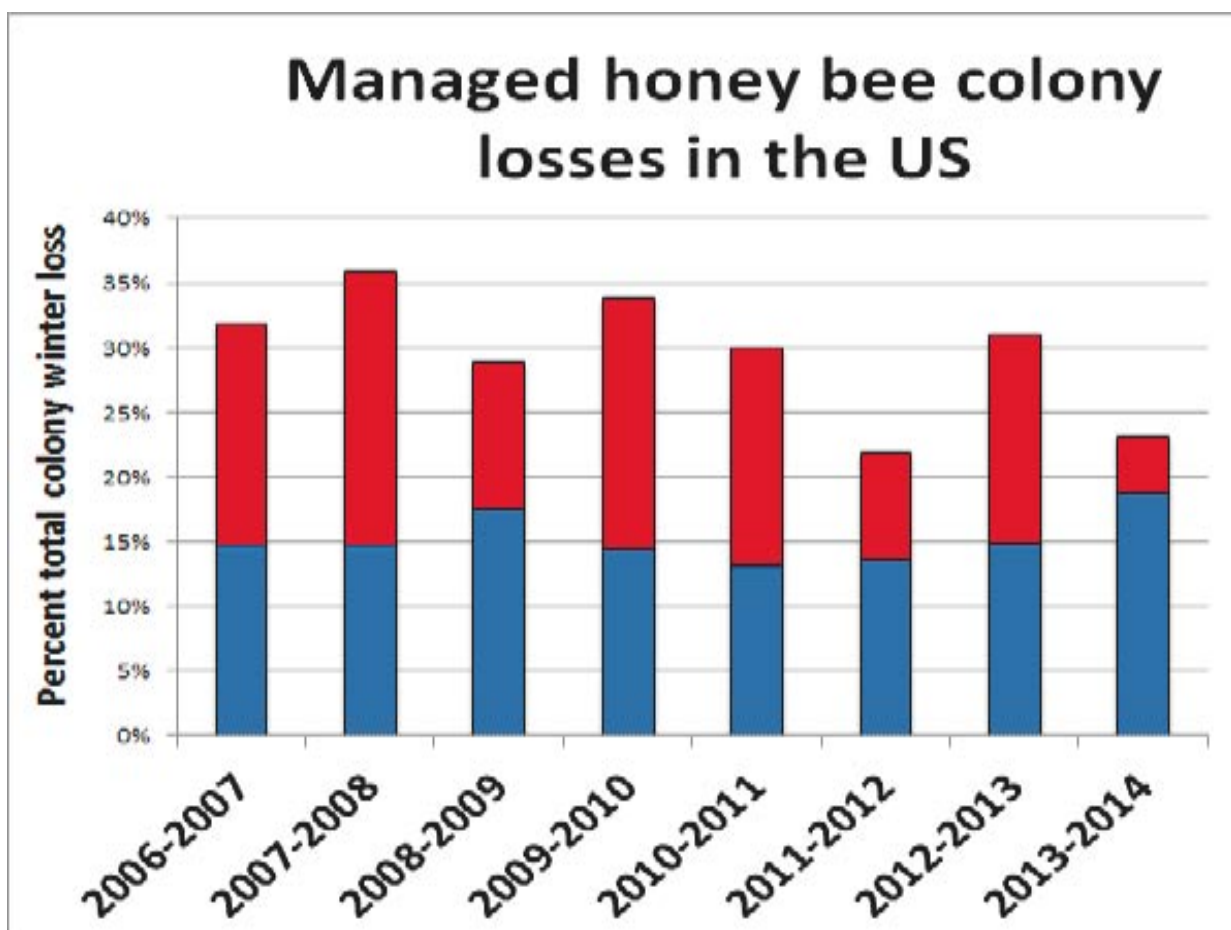
Whether lawmakers agree depends on whose science they believe.

“If they want to be truly informed about the bee crisis,” said Tiffany Finck-Haynes, director of the food and technology program at Friends of the Earth U.S., “they need to rely on independent scientists, not scientists from Bayer.”

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Pesticide Ban Is Just One Piece of Honeybee Puzzle

By [Georgina Gustin](#) Roll Call Staff June 6, 2014, 4:40 p.m.

Neonicotinoids were first introduced in the 1990s, and are now the most used synthetic pesticides in the world.

They can be used on leaves, in the soil and also as seed coatings – the third being the most common usage. The global market hovers around \$2.6 billion and is dominated by two players: Bayer, which produces imidacloprid and clothianidin, and Syngenta, which produces thiamethoxam.

All three synthetic pesticides have been temporarily restricted in the European Union amid concerns about their impacts on bees. Legislation introduced by Rep. [John Conyers Jr.](#), D-Mich., and [Earl Blumenauer](#), D-Ore., would temporarily ban four nitro neonicotinoids – the above three as well as dinotefuran – until the Environmental Protection Agency completes a new review of safety.

Neonics are broken down into two classes, nitro and cyano. The nitro class is thought to be especially damaging to pollinators such as bees.

While the Conyers-Blumenauer legislation is gaining some traction, passage is a long way off. Bee researchers say that neonics are just one of many factors weakening and killing bees, and Congress should focus on other avenues.

Marla Spivak of the University of Minnesota, one of the country's leading bee researchers, recently attended a White House summit on pollinator health.

Here's her wish list:

- Provide long-term funding for diagnostic labs at a national level
- Require the EPA to label urban landscape pesticides. While agricultural pesticides have clear bee warning labels, pesticides used by homeowners and landscapes in urban and suburban settings are unregulated.
- Provide funding for plantings along rights-of-way – near roads and utilities – to provide corridors for bees.

And, “of course, more funding for research,” Spivak added. “But that’s always a given.”



I let bees sting me on the penis and the scrotum to see which hurt more

By Rod McPhee Apr 06, 2014 21:39

But boffin Michael Smith reckons a sting on the nose was the most painful of all. Balls to that idea: Michael Smith allowed a bee to sting his scrotum

Scientists have always enjoyed Eureka! moments. That was the very word Archimedes used when he jumped out of his bath, and Isaac Newton must have felt much the same when an apple fell on his head. The apple might have smarted a little, but it was nothing compared to the pain Michael Smith experienced when a wayward honey bee inadvertently flew up his shorts and stung him on the scrotum. But that was the spur for the scientist to explore how pain affects humans – by **forcing the insects to sting him**, literally from head to toe, over five weeks.



The subject of exactly where would hurt the most had already come up in conversation between Michael – a postgraduate studying bee behaviour – and his colleagues at Cornell University, New York.

He said: “If you’re wearing shorts and doing bee work, a bee can get up there easily.

“We speculated it probably really would hurt to get stung in the testicles. Two days later, by chance, I did get stung there. But I was

really surprised that it didn’t hurt as much as I thought it would.”

So, in the name of science, he put himself through the pain barrier.

On being stung in the genitals again, he recalled: “It wasn’t a pleasurable experience, put it that way. It didn’t worry me. I knew the swelling would go down. “I’m actually recently single – happily single – which is absolutely nothing to do with this study. I was not worried at all that I would lose any ability down south.”

And despite being stung on his most sensitive areas, he can confirm the worst place, rather surprisingly, is the nose.

He explained: “If you’re stung in the nose and the penis, you’re going to want more stings to the penis, over the nose –if you’re forced to choose. There’s definitely no crossing of wires of pleasure and pain down there. It’s painful. Getting stung on the nose is a whole body experience. Your body really reacts. You’re sneezing and wheezing and snot is just dribbling out. It’s electric and pulsating.”

Michael, who previously studied bee-keeping at United World College of the Atlantic, near Cardiff, took agitated bees in forceps and applied them to 25 different areas of his body. He then rated the resulting pain from zero to ten.

And he did not just do it once – the human guinea pig stung himself three times in each area.

At times he needed to use a mirror and adopt some awkward poses to get to some harder to reach areas. But he wanted to go even further.

He said: “I originally had the eye on the list, but when I talked to my advisor, he was concerned I might go blind. I wanted to keep my eyes.”

The findings’ long-term usefulness may not be obvious, but the results, published this week in scientific journal PeerJ, are certainly unexpected and thought-provoking.

It turns out the more delicate parts of the body do not react as badly to bee stings compared to areas where you might expect the skin to be thicker and less sensitive.

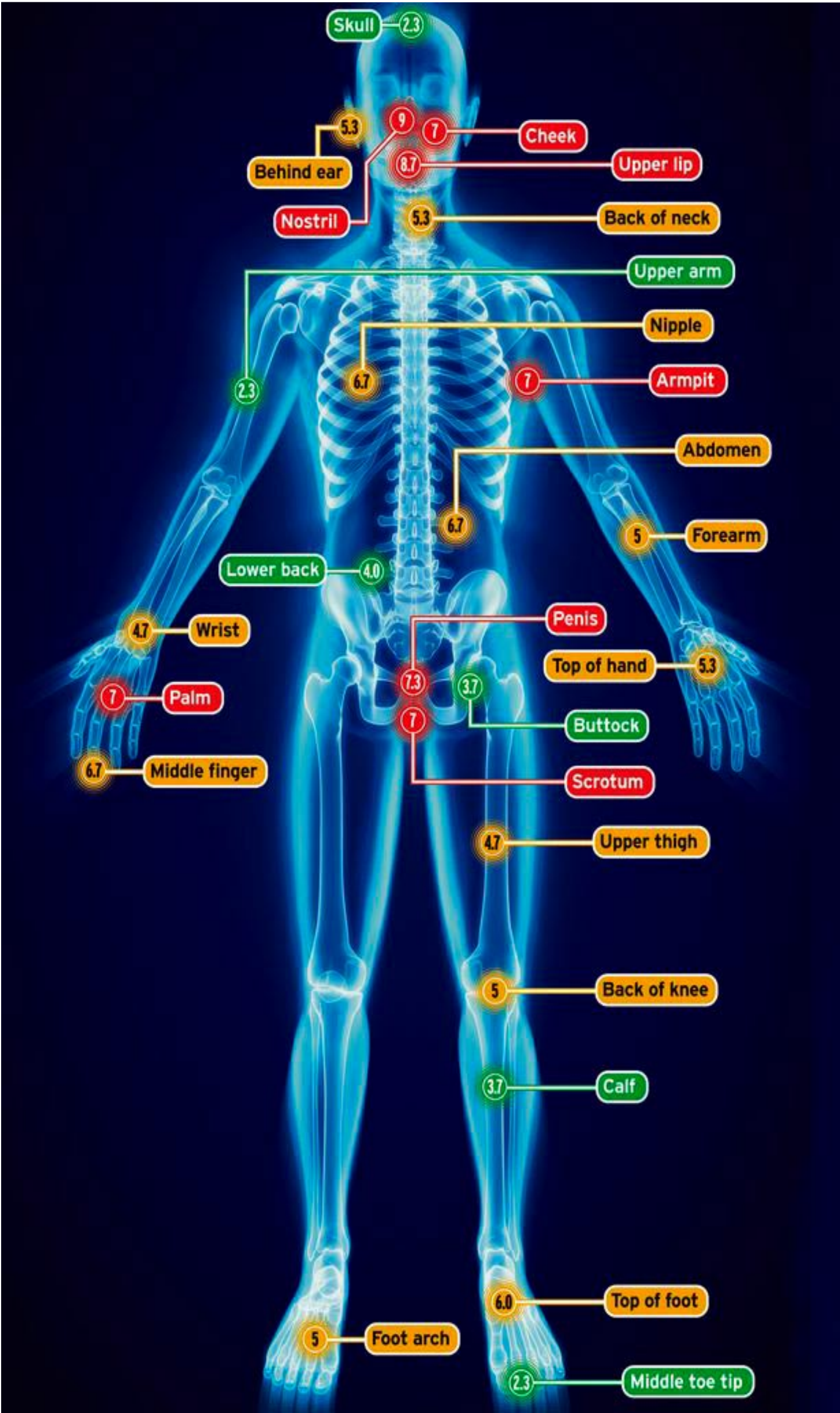
Although his testicles were the fourth worst place to be stung– with a pain rating of 7.0 – that was only equally as painful as being stung in the palm and the cheek. The penis was only marginally more uncomfortable with a 7.3 rating.

His nostril with a rating of 9.0 was the most painful, with the upper lip not far behind on 8.7.

And the least painful, with ratings averaging 2.3, was the upper arm, the middle toe and the head.

He said: “Getting stung on the top of the skull was like having an egg smashed on your head. The pain is there, but then it goes away.”

Michael now believes the pain map he developed could be relevant to other types of hurt and injury.



EPA Asked to Protect Bees with Over Half-a-Million Signatures

20 Mar 2014 09:53 Written by Press Release Category: Environmental

Washington, DC--(ENEWSPF)--March 20, 2014 —**Today, more than 500,000 signatures were delivered to U.S. Environmental Protection Agency (EPA) Administrator Gina McCarthy, urging the nation's top-ranking environmental leader to protect bees and other pollinators.** The date marks the one-year anniversary of the lawsuit filed against EPA by beekeepers, food, and environmental groups, including Beyond Pesticides, over the continued allowance of two bee-toxic pesticides: clothianidin and thiamethoxam. It also marks the two-year anniversary of the emergency legal petition filed against the agency on this same issue. EPA has yet to take serious action to address dramatic bee declines.

The pesticides in question are a class of systemic insecticides known as neonicotinoids. Despite numerous studies linking neonicotinoids with bee kills, colony collapse, and weakened immune systems, EPA continues to operate under an alarmingly slow registration review process for these insecticides, one that extends to 2018. Honey bees are responsible for producing one in every three bites of food we eat, but research increasingly shows they are being harmed by the indiscriminate use of neonicotinoids, both alone and in combination with other pesticides. It is the job of the EPA to review such pesticides for safety and to take action if they are found to be harmful.

“We call on EPA Administrator McCarthy to lead the agency in a new direction by immediately suspending all outdoor uses of neonicotinoid pesticides. Bees can't wait four more years for EPA to make a decision. If the agency acts now, we can save these vital pollinators before it's too late,” said the groups in a joint statement.

“Beekeepers are losing colonies at an unprecedented rate – the losses are too extreme to keep up with, and our entire industry is at risk of collapse unless federal action is taken. Convening conferences and changing pesticide labels is lip service and window dressing to the issue, but has no substance,” said New York beekeeper Jim Doan, a plaintiff in the lawsuit who will be discussing bee declines on Capitol Hill next week.

In the absence of federal action, several states have taken action independently to introduce legislation that would suspend uses of neonicotinoids. California, Minnesota and New York are among the states considering action in their state legislatures. And this month, Eugene, Oregon became the first city in the country to ban the use of neonicotinoids on city property. Congress is also pushing to curb the use of neonicotinoids through the Saving America's Pollinators Act, introduced by Representatives John Conyers (D-MI) and Earl Blumenauer (D-OR).

In December 2013, Europe implemented a two-year moratorium on the most problematic neonicotinoids in order to protect bee health. This move came after several European countries had already implemented bans, with no economic costs to farmers or consumers.

“We are asking EPA to follow the EU's lead and recognize that the risks are unacceptably high. Pollination services provided by honey bees and other, even less studied, wild bees are far too important for agriculture and ecosystems to treat them in a non-precautionary manner. Many thousands of beekeeper livelihoods, the future viability of commercial beekeeping and the crops relying on these pollination services, estimated at \$20-30 billion annually, are potentially in jeopardy,” said the groups.

Beyond Pesticides along with other groups will continue to push for pollinator protections. Please visit Beyond Pesticides' **Bee Protective** website to learn more about our efforts to save pollinators and what you can do too. Beyond Pesticides launched the BEE Protective campaign, a national public education effort supporting local action aimed at protecting honey bees and other pollinators from pesticides and contaminated landscapes. BEE Protective includes a variety of educational materials to help encourage municipalities, campuses, and individual homeowners to adopt policies and practices that protect bees and other pollinators from harmful pesticide applications and create pesticide-free refuges for these beneficial organisms. In addition to scientific and regulatory information, BEE Protective also includes a model community pollinator resolution and a pollinator protection pledge. Pollinators are a vital part of our environment and a barometer for healthy ecosystems. Let's all do our part to BEE Protective of these critical species.

All unattributed positions and opinions in this piece are those of Beyond Pesticides.

from Kelly Beekeeping

DON MILLER, PRESIDENT, SANGAMON VALLEY
BEEKEEPERS ASSOCIATION, DECATUR, IL

Managing the Inspection

My worst encounter was 4 or 5 years ago, I decided to inspect a colony not far from my home. It was a typical day, early/mid July and the nectar supplies were starting to wane in our part of the country. As soon as I cracked open the colony the bees were on me as if to say “NOT NOW!” I forged militaristically on. I was looking for signs of the queen, a man on a mission, marching headstrong into this routine inspection and nothing was going to stop me. I had to know, was she or wasn't she healthy; was she placing those eggs side by side, was she or wasn't she making me a proud apiarist with only the highest quality queen in my apiary?

I pulled out the first frame; the bees were pelting my gloves like tiny laser guided missiles targeting an enemy aggressor. I pulled out another frame, and bees were pounding the netting around my face; I pulled out another frame and there were bees in the air everywhere, stinging my clothing; buzzing me; bumping my veil, warning me to GET AWAY; it was insane. I quickly finished my inspection, closed up the hive, and made my get-a-way. Before it was over, I had well over 200 stingers in my clothing—one of them penetrated my skin but I can only imagine what I would have felt like had I not been wearing proper protective gear.

In retrospect, I learned a great deal from that experience. Had I determined before doing my inspection to listen to the little ladies, I would not have been so ravenously attacked. They were quite nervous that day, uncharacteristically so. I needed to slow down my inspection technique.

The key takeaway: FOR SAFETY'S SAKE, MANAGING THE INSPECTION IS AS IMPORTANT AS MANAGING THE COLONY. My advice: 1. LISTEN to the LADIES (accept the occasion when the little ladies say “not today”). 2. ALWAYS wear protective gear (yes, there is always a rogue bee somewhere in the colony). 3. When the inspection HAS to occur today; use plenty of cool smoke and be patient after using your smoker and allow some time prior to your inspection.

I routinely wear gloves, a nylon jacket and veil. The nylon jacket seems to be less prone to having bees rest on it after an inspection, reducing the odds of catching you off-guard and subsequently, you getting stung when removing the gear after an inspection.

[Project Apis](#) is a web site worth visiting. Lots of information here.

Our web site, www.guilfordbeekeepers.org is your source for local beekeeping information, questions, and answers. Sign up for our forum board and join the conversation!

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Guilford County Beekeepers Association

A LOCAL CHAPTER OF THE NORTH CAROLINA STATE BEEKEEPERS

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