

*“One reason that cats are happier than people is that they have no newspapers.”*

— Gwendolyn Brooks

Newspapers, talking-head media outlets and news-focused websites cannot sell advertisements (which is their purpose in life) without attracting readers/viewers/listeners. The problem is that humans have short attention spans. To sell papers and web pages, the information presented must be fresh and attractive, and it is ideal if it is startling and anxiety-producing. Once we’ve been frightened, a new topic must be presented to keep us coming back for more. That’s why they show us the “news” and not the “olds”. Maybe that also explains why there have been twelve “Friday the 13<sup>th</sup>” movies; we need a new slash-and-scream movie when we start saying “ho hum” during the old ones.

All of this leads to the fact that once a startling or “oh wow” bit of news passes through the popular media, it usually never gets mentioned again. In the late Paul Harvey’s words, we never get “The Rest of the Story.” To rectify that in a small way, let’s look at a few of the “world changing” headlines of the past few years and see how things are going now.

### Asian Giant Hornets

In 2019 we were told to expect death and destruction, not only for our honey bees but ourselves as well, from Murder Hornets. Of course, Murder Hornets isn’t their real name, just as Jack the Ripper surely didn’t have that on his driver’s license. Their name got jazzed up by the media, even though their common name, Asian Giant Hornet, sounded pretty ominous to me. Officially they are *Vespa mandarinia*.

These bugs most likely came to the Pacific Northwest on a container ship traveling to the port at Vancouver, British Columbia, not all that far from Seattle, Washington. The world’s



Have you seen a Northern Giant Hornet in your bee yard? NO NO NO, this is not a European Hornet (*Vespa crabro*), which we do have lots of (see “[Those Aren’t My Bees](#)”). If you do have a Northern Giant Hornet in your yard, you don’t live in North America, according to the most recent reports.

Photo: Washington State Department of Agriculture.

largest hornets, they are about four times larger than honey bees.

Remember the joke, “What does a 400-pound gorilla eat? Anything that it wants!” That applies to Asian Giant Hornets, too. They are predators and they love to eat large caterpillars, spiders and beetles. They also will gang up outside of honey bee hives and bite the head off of every single bee that gets close to them. When the honey bee colony has been completely slaughtered, they move in and harvest the bee brood, taking it back to their own nests to feed themselves and their own larvae.

The first bit of update on this threat is that a year ago, the Entomological Society of America (ESA) announced “Northern Giant Hornet” as the common name for *Vespa mandarinia*. So don’t call them Asian Giant Hornets anymore or it will sound like you are out of the loop.

The second bit of news is that they apparently aren’t here anymore.<sup>1</sup> Hurray! The relevant government agencies in British Columbia and Washington State have been working tirelessly in the field to identify and

<sup>1</sup> <https://agr.wa.gov/departments/insects-pests-and-weeds/insects/hornets/data>

<https://agr.wa.gov/departments/insects-pests-and-weeds/insects/hornets/reported-sightings>

destroy any colonies that they can possibly find, and that seems to have worked. There have been zero reports of sightings in 2022 and 2023. So this news has gone from scary news to old news to no news. Whew!

### Tracheal Mites

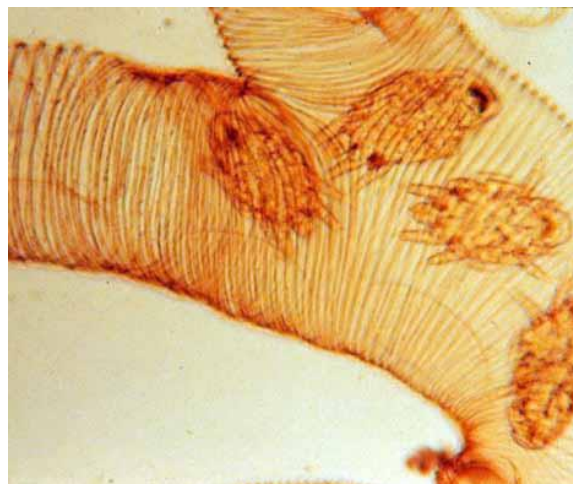
Pop quiz: what was the exotic pest that came to the United States in the 1980s and quickly wiped out countless numbers of honey bee colonies? Hint: this pest was the reason that the United States passed the Honey Bee Act of 1922 in a frantic attempt to keep them away from our shores.

If you said “Varroa mites”, bless your heart, your confusion is understandable but you are incorrect. Before Varroa there were tracheal mites. Those are the pests that caused the near-extinction of *Apis mellifera mellifera* (the Black Bee) in England and elsewhere. The US import prohibition actually worked until 1984, but once here, beekeepers lost tens of thousands of colonies with 75 to 100% winter losses.

The bee supply houses used to offer menthol treatments and beekeepers were instructed to put grease patties in hives to keep the tracheal mites at bay. The fairy-dust crowd swapped recipes for bee teas that supposedly provided a cure.

Then one day beekeepers looked around and, golly, nobody can find tracheal mites anymore! Conversations with our State Apiary Inspectors suggest that it has been at least a decade since tracheal mites have showed up in bee samples at the diagnostic lab. This situation is repeated across most parts of the United States.<sup>2</sup>

What happened? It was probably a combination of things. Black bees have been nearly universally displaced by Italian and Carniolan bees, whose physiology is better suited to withstand these mites. Many treatments for Varroa mites also impact



Tracheal mites are nasty creatures that live and breed in the tracheal (breathing) tubes of honey bees. Should we be worried? Nope, they appear to be history.  
Photo: USDA

tracheal mites. Perhaps the combination of Varroa and tracheal mite infestations killed colonies so fast that the tracheal mites died off with them. As long as we are speculating, don't dismiss the possibility of widespread alien abduction.

This doesn't mean that tracheal mites are extinct, but they are so rare and they cause so little damage that nobody in North Carolina cares about them anymore. We've taken questions about their symptoms (which include bees holding their wings in an odd K-shaped pattern) off of beginner tests because they aren't relevant any longer.

So don't buy menthol packets or make grease patties and bee teas any longer. The tracheal mite has gone the way of polio and small pox. It is of historical interest but not a current concern.

### Oxalic acid extended-release pads

Beekeepers have fallen in love with oxalic acid as a Varroa mite treatment. When applied properly and appropriately according to the label directions, it can be a very effective

<sup>2</sup> Alison McAfee, “Where did the tracheal mites go?” American Bee Journal, January 1, 2023.  
<https://americanbeejournal.com/where-did-the-tracheal-mites->

[go/#:~:text=Tracheal%20mites%20may%20no%20longer,problems%20go%20away%20in%20beekeeping](https://americanbeejournal.com/where-did-the-tracheal-mites-nger-problems%20go%20away%20in%20beekeeping)

component of an Integrated Pest Management strategy (see [“What IPM Really Means and How It Applies to Beekeeping”](#) and [“What’s the Deal with Oxalic Acid: Part 2”](#)). But it has shortcomings, foremost of which is that it is a “flash treatment” that only kills phoretic mites (those riding on adult bees) at the time that it is applied. Once mites safely protected underneath brood cappings emerge, the colony is reinfested.

A solution to this problem is long-lasting treatments that kill mites over an extended period of time. Mites underneath cappings get killed whenever they eventually emerge. Treatments are typically a little more time and labor intensive but that’s a trade-off for effectiveness.

People such as researcher and professional beekeeper Randy Oliver have been working to marry lovable oxalic acid with a long-lasting, extended-release treatment mechanism. A commercial version of such a product is available in a few foreign countries.

Randy Oliver’s results in his California bee yards have inspired other beekeepers across the country to copy his research materials and implement his methodology in their own hives. They lean on a built-in exception to EPA’s labeling requirements, called Section 2(ee) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The text basically says that states can allow deviations from EPA’s legally-binding directions as long as the changes don’t matter much. For example, someone can usually apply less of a pesticide than the specified dose. Or they can use a Varroa treatment to kill tracheal mites as long as they are using it in bee hives and following the stated directions.

In a desire to accommodate the needs of its beekeepers, several states, notably Vermont, Delaware and New York, declared that under FIFRA 2(ee) their beekeepers can legally use ApiBioxal oxalic acid to create their own extended-release pads for the treatment of

Varroa mites, even though that application method is not specified in the EPA label. Vermont even posted video directions for how to make the pads. Waves of “hurray!” swept across the nation.

But somebody forgot to consult with EPA. When Delaware finally asked EPA to approve the bulletin that they wanted to publish which describes their exemption, EPA basically slapped them back so hard that it registered on the Richter Scale.<sup>3</sup> The Agency said that the recommended application instructions did not comply with FIFRA Section 2(ee) because:

- 1) the dosage was much higher than the dosage in the approved label.
- 2) the altered instructions call for mixing oxalic acid with glycerin, which isn’t mentioned in the approved label
- 3) related to mixing with glycerin, FIFRA Section 2(ee) allows a pesticide to be mixed with fertilizer but not any other substance

In addition to the official reasons for denial, the EPA cited several concerns:

- 1) “The FIFRA 2(ee) bulletin instructs users to create and apply a product that will present chronic exposure of oxalic acid to bees and humans. The currently registered product results in acute exposure only. Therefore, the EPA-registered product label may not be protective of chronic exposure.”
- 2) “The application method described by the FIFRA 2(ee) bulletin differs significantly from the currently registered product label such that it requires an application for a new product registration under FIFRA Section 3 if it were intended to be distributed or sold”
- 3) “The FIFRA 2(ee) bulletin instructs users to add two new inert ingredients to an already registered product – glycerin and cellulose pads. Many cellulose pads contain flame retardants that might be hazardous to bees.”

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<sup>3</sup>[https://agriculture.vermont.gov/sites/agriculture/files/doc\\_library/EPA%20ltr.pdf](https://agriculture.vermont.gov/sites/agriculture/files/doc_library/EPA%20ltr.pdf)

- 4) “The addition of new ingredients requires submittal of an application to EPA for a new pesticide product registration. Inert ingredients must be cleared by EPA before they can be added to registered products. Therefore, the outcome of following the instructions of the FIFRA 2(ee) bulletin is the creation of a new product that requires an application for a new product registration under FIFRA Section 3 if it were intended to be distributed or sold.”
- 5) “If a person or entity is selling or distributing the product produced in accordance with the referenced 2(ee) bulletin, it would be considered production of pesticide in a facility that has not been approved for pesticide production (i.e., has not been registered as an EPA pesticide-producing establishment).”

All of this means that oxalic acid extended-release pads cannot legally be made at home or applied to bee hives by eager beekeepers. We’ll have to wait for either a legally-approved product or a legally-approved change to the application instructions.

I have no doubt that beekeepers who know they are much smarter and much cleverer than you or me will ignore the Federal government’s pronouncement with regard to extended-release pads and make them anyway. After all, pesticide regulations are for mosquito-sprayers, farmers, gardeners and other people to follow, not us, right? But before you are tempted to

join the DIY pesticide manufacturers, there is one more interesting tidbit to consider.

Although Randy Oliver has had success with extended-release pads in the arid California high-country, studies at the University of Georgia and elsewhere that are slowly making their way to publication show that the pads don’t work to effectively control Varroa mites in the east, south and southeast. A citizen-scientist study done in Virginia, reported in the American Bee Journal,<sup>4</sup> says that mite loads in hives with extended-release pads didn’t rise as fast as in the no-treatment control group. That’s a polite way of admitting that they don’t work. My Varroa management goal isn’t to slow the increase in mite loads; it is to knock the levels down and attempt to keep them down. I already have effective products that do that. I want to improve on what I have, not go backwards.

Major points go to oxalic acid extended-release pads for creativity and enthusiasm, but those aren’t among my criteria for adopting a mite treatment.

As Paul Harvey said, “And now you know... the rest of the story.”

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<sup>4</sup>[https://bluetoad.com/publication/?m=5417&i=689446&view=articleBrowser&article\\_id=3853046&ver=html5](https://bluetoad.com/publication/?m=5417&i=689446&view=articleBrowser&article_id=3853046&ver=html5)