

Good luck not letting the bedbugs bite

September 21 2010, By Sarah Avery

For anyone hoping there's a quick, easy treatment for bedbugs in the near future, take note of the hesitation in Coby Schal's response.

Schal is a North Carolina State University urban entomologist -- the academic title for a guy who studies cockroaches and, of late, bedbugs -- and he gets asked all the time whether a miracle might soon hit the market to stem growing infestations of the blood-sucking pests.

Pause.

Long, scary pause.

"I wish I had a short-term answer to that," he says. Another pause. "But I don't."

Oh, agony and woe.

And the pessimism among leading bug scientists is nothing compared to the downer from exterminators, who now rank bedbugs among their worst and most prevalent problems.

Donnie Shelton, owner of Triangle Pest Control in Raleigh, said his bedbug business has increased 400-fold -- just this year.

He bought a dog, named Scout, who is specially trained to sniff out bedbug infestations. Next month Shelton will offer a heat-based eradication system, which uses industrial heaters to roast the bugs dead

in their tracks.

Pesticides, he says, are increasingly ineffective.

"They become more resistant every single day," Shelton says. "They're insane. You can't do anything with them. Everything in the arsenal isn't working."

Overuse of pesticides has likely contributed to the bedbugs' resurgence, and that exact process is one of the mysteries Schal's team at NCSU is trying to figure out.

Until only recently, bedbugs seemed to be a scourge of the past, but their comeback has been a triumph of selective resilience that would be a marvel if it wasn't so creepy.

"Bedbugs just drive people mad," Shelton says. "The thought of an insect coming out and biting you when you're sleeping -- it makes people crazy."

Infestations have hit area hotels, North Carolina State University and Wake Forest University dorm rooms, a home for the elderly in downtown Raleigh and untold numbers of private residences.

Treatments can be extensive and expensive, requiring repeat visits that can run costs to well over \$1,000.

When bedbugs first started showing up in North Carolina four years ago, Shelton says, a pesticide that relied on the chemical compound pyrethroid worked well. That didn't last. Exterminators then switched to another chemical, also a pyrethroid-based compound, and it, too, failed.

Schal says he has dunked bedbugs in pyrethroid -- literally soaked them

-- and they live. "They just walk away," he says.

As a result, he suspects the bugs that are now infesting the United States hitchhiked here from Africa or South America, where pyrethroid-based insecticides have been sprayed liberally to eradicate mosquitoes that carry malaria and so-called kissing bugs that transmit Chagas disease.

When poisons are used over and over again, the vulnerable bugs die, while the hardy ones live and breed, creating a master race that is impervious to the toxins.

And since bedbugs are notorious travelers -- they can hop on luggage, clothing, purses -- they easily spread in a go-go world.

Schal's group at NCSU has a \$350,000 grant to use DNA sequencing to trace the origins of current bedbug populations in the United States. The information, he says, will clarify "where they came from and why they're here and why we're having problems now that we didn't have two decades ago."

The failure of pyrethroid-based insecticides has created a unique situation in the battle against bedbugs.

With [cockroaches](#), which have also grown resistant to the pesticide, exterminators have other weapons. They can use baits to attract the insects. The baits, spiked with another poison the insects eat, kill the critters and others that come in contact with them.

But bedbugs are built to suck blood, not scrounge food particles. In addition, scientists don't know exactly what draws bedbugs to humans, other than the prospect of a blood meal.

Answering that question is another goal of Schal and his team at NCSU,

in hopes the knowledge may result in something that lures bedbugs from the nooks and crannies where they hide.

That would be a major advance, because it's a sneaky breed. Bedbugs can go months without a meal, burrow deep into furniture and walls, and are creative in where they hide their progeny; eggs have been found in picture frames, behind baseboards, even along the threads of headboard bolts.

Pest experts note that such survival skills make it hard for trained exterminators to clear an infestation, let alone do-it-yourselfers. They particularly caution people from using pesticide "bombs," which contain pyrethroid and are generally ineffective. Multiple bombs only put residents at risk, not the bugs.

Mike Waldvogel, another NCSU [entomologist](#), says there are steps people can take to prevent infestations in the first place. He says people who travel should check their hotel rooms for tell-tale signs of [bedbugs](#), notably brown stains along the seams of mattresses, and keep their luggage off the floors, beds and chairs.

Once they return home, he says, people should unpack in the bathtub, where they're more likely to see a hitchhiking bug, and immediately wash and dry all their clothes. He also recommends sequestering the suitcase outside or in the garage.

And while Waldvogel urges diligence, he also says there's no reason to panic.

"You can't just stay at home and hunker down and watch TV and never invite anyone into your house," he says.

Then again, that doesn't sound quite so bad.

(c) 2010, The News & Observer (Raleigh, N.C.).
Distributed by McClatchy-Tribune Information Services.

Citation: Good luck not letting the bedbugs bite (2010, September 21) retrieved 5 May 2024
from <https://phys.org/news/2010-09-good-luck-bedbugs.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.