

# What's Bugging Everyone?

These bloodsucking insects have people worried.

By Carol Milano



**T**hey've been seen in all the best places—Abercrombie & Fitch, Nike stores, Victoria's Secret, five-star hotels, luxury cruise ships, movie theaters. But these socialites are uninvited and far from welcome. They're bedbugs.

The tiny travelers are fearless, ready to seek out a quiet spot in even the nicest locations. "They love dark, protected, rarely disturbed places," explains Michael Merchant, professor and extension urban entomologist at the Texas AgriLife Research and Extension Center at Dallas. Bedbugs are about the size of apple seeds. They travel by crawling and

consume only human blood. "It's amazing how they find us!" says Merchant. Bedbugs use carbon dioxide, which we exhale, to find hosts. "Following the carbon dioxide scent leads them to where whoever exhaled is sleeping." In other words: their next meal.

### Branching Out

Although most insects live outside, these bloodsuckers prefer a roof over their heads, according to Merchant. "Bedbugs evolved long ago to live among people. They realized that humans provide a year-round food source and great shelter, and by living in our homes, they can avoid bad weather."

BACKGROUND: EYE OF SCIENCE/PHOTO RESEARCHERS, INC.; INSET: APPI/GETTY IMAGES

Targeting warm indoor places with large human populations, bedbugs found resorts, condominiums, dormitories, hospitals, and homeless shelters, where they can hide by day and dine by night.

Lately, adventurous bedbugs have been exploring other places that attract crowds. If there's human blood, they're interested. But of course, the bedbugs are not receiving a warm welcome.

"I don't like bugs—they're gross," says Sarah F., 14, of New York. In January, she was returning home from a Broadway play with her parents. While they sat in a subway station waiting for a train, a woman who was cleaning warned them that there could be bedbugs on the benches. Before

that moment, Sarah hadn't thought much about bedbugs. "All I knew was that they are tiny bugs that suck your blood," she recalls. She didn't need to hear any more. "We got up, stepped away, and stood until the train came," Sarah says. Now when she's in a train station, "I try not to sit," she says.

That's a smart choice because bedbugs can turn up anywhere. Nationwide, hotels are getting more and more bedbug complaints from travelers. After a meal, lasting three to 12 minutes, bedbugs nap for several days before getting hungry again. They'll sleep anywhere that makes them feel secure and protected: in cracks or crevices, behind headboards, underneath sheets, and in the wood frame beneath

# Trying Many Treatments

So far, bedbugs have survived all current treatments. Scientists and businesses keep looking for new approaches or ways to strengthen older ones.

- 1 Services such as the **Fume Cube** allow mass fumigation of bedbug-infested items. Items are placed in a portable shed, and sulfuryl fluoride, a poisonous (but colorless and odorless) gas, kills every bug inside.
- 2 **Zippered vinyl covers** provide an airtight seal around mattresses and box springs, preventing even tiny bedbugs from invading.
- 3 Many types of pesticides are dangerous to people. One effective, less toxic control method is a natural, light-colored fine powder called **diatomaceous earth**. It comes from soft rocks, says Karl Tupper, staff scientist at Pesticide Action Network in San Francisco. "As an insecticide, its sharp particles damage the soft bodies of bugs so they lose moisture and die."
- 4 So far, heat has been the best bedbug cure. This method should be used only by professionals, says Tupper. **Heat treatment** requires residents to leave for several hours while everything in the home is heated to triple-digit temperatures that kill bugs and their eggs. "If done right, it works," Tupper says. "Spraying pesticide often fails because of bug resistance or because occupants don't prepare their home properly for the exterminator."

Fortunately, unlike ticks and mosquitoes, bedbugs don't carry disease. Some victims don't even realize they have been bitten.



mattresses. They move beyond beds, crawling into any tight spot—picture frames, books, or under clothes. Suitcases are a favorite hiding place, so when you are in a hotel, keep your luggage far from the bed. Better yet, use fabric luggage that can be washed with very hot water when you get home.

Close to home, "messy rooms are bedbug heaven," Merchant says. Keep personal items away from your bed. But if you do get an infestation, the cleaner the room, the easier it is to treat, he adds.

Fortunately, unlike ticks and mosquitoes, bedbugs don't carry disease. Some victims don't even realize they have been bitten. Those who do react may get itchy or notice red welts. However, the emotional stress of living with bugs can affect sleep and cause anxiety, Merchant acknowledges.

## Why They're Back

Bedbugs were common until a strong pesticide, DDT, nearly wiped them out during the past century. But DDT was banned in the U.S. in 1972 when evidence showed it was harmful to humans. Other chemicals have taken its place, but bedbugs have developed resistance. Today's bugs survive doses 1,000 times stronger than what would have killed them 10 years ago. "It's survival of the fittest," Merchant observes. He suspects they're also returning partly because people travel more. "Bedbugs are great hitchhikers in boxes and luggage."

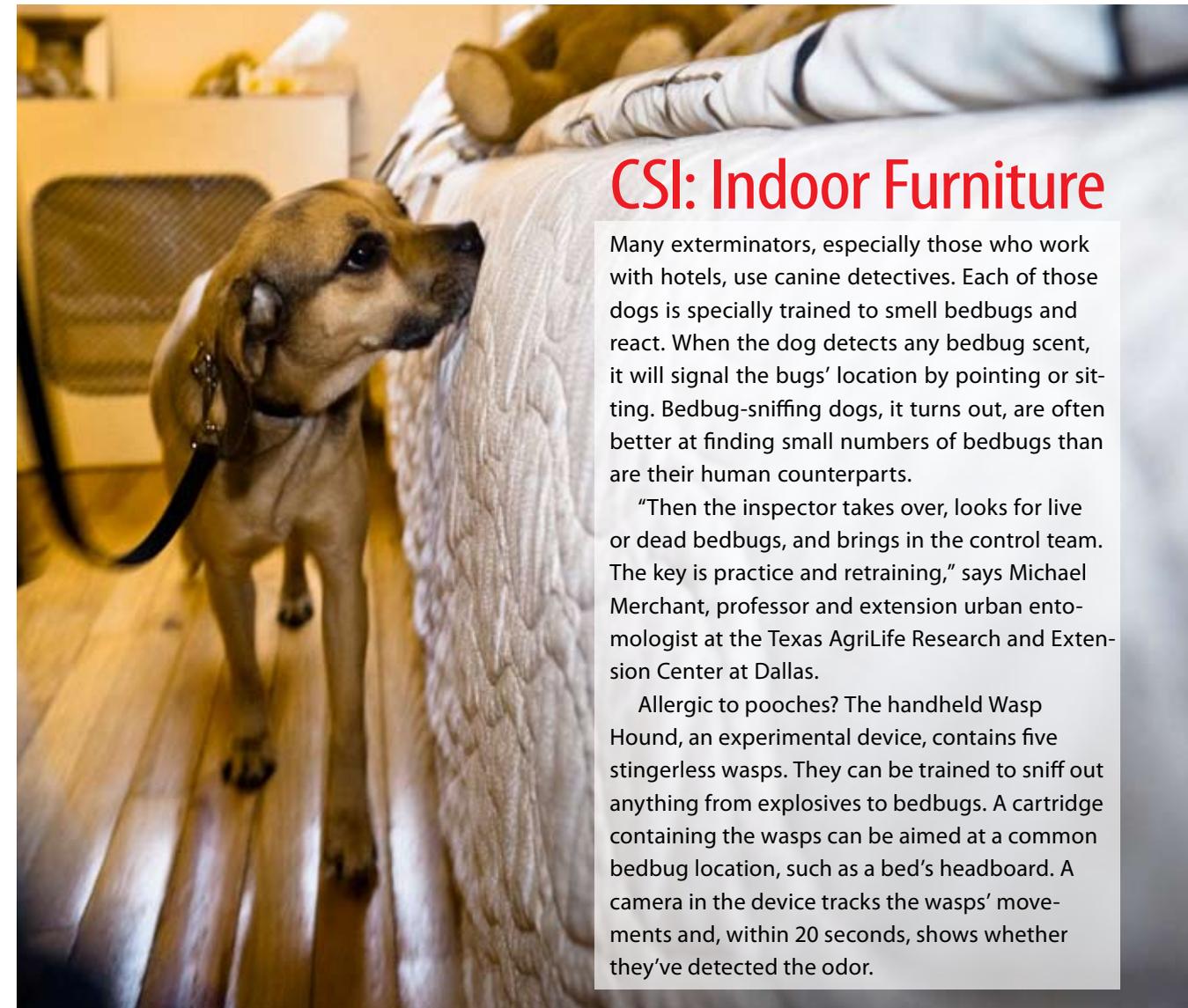
Learn to recognize bedbugs. If you see one, tell a parent, a hotel clerk, or your landlord. Then carefully put a few in a jar with a teaspoon of rubbing

alcohol or inside a sealed bag and find an expert (such as those in your local Cooperative Extension office) to properly ID them and get cleanup started.

Bedbugs are probably going to be with us for a while, the experts admit. One in five Americans have had an infestation at home or know someone who has, according to the National Pest Management Association. Just the thought of that makes many people a little itchy. **CH**

## Think About It

Go online or visit your library to find out more about why today's bedbugs can survive higher pesticide levels than bedbugs of the past. Why is that a problem? What are some possible solutions to the problem?



## CSI: Indoor Furniture

Many exterminators, especially those who work with hotels, use canine detectives. Each of those dogs is specially trained to smell bedbugs and react. When the dog detects any bedbug scent, it will signal the bugs' location by pointing or sitting. Bedbug-sniffing dogs, it turns out, are often better at finding small numbers of bedbugs than are their human counterparts.

"Then the inspector takes over, looks for live or dead bedbugs, and brings in the control team. The key is practice and retraining," says Michael Merchant, professor and extension urban entomologist at the Texas AgriLife Research and Extension Center at Dallas.

Allergic to pooches? The handheld Wasp Hound, an experimental device, contains five stingerless wasps. They can be trained to sniff out anything from explosives to bedbugs. A cartridge containing the wasps can be aimed at a common bedbug location, such as a bed's headboard. A camera in the device tracks the wasps' movements and, within 20 seconds, shows whether they've detected the odor.

LEFT: SCIENCE FACTION/GETTY IMAGES; RIGHT: CHAD BATKA