

Do bed bugs have favorite colors?

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Researchers from the University of Florida and Union College in Lincoln, NE wondered whether bed bugs preferred certain colors for their hiding places, so they did some testing in the lab. The tests consisted of using small tent-like harborages that were made from colored cardstock and placed in Petri dishes. A bed bug was then placed in the middle of the Petri dish and given ten minutes to choose one of the colored harborages. A few variations of the test were also conducted, such as testing bed bugs in different life stages, of different sexes, individual bugs versus groups of bugs, and fed bugs versus hungry bugs.

The results, which are published in the *Journal of Medical Entomology*, showed that the bed bugs strongly preferred [red](#) and black, and they seemed to avoid colors like green and yellow.

"It was speculated that a bed bug would go to any harborage in an attempt to hide," wrote the authors. "However, these color experiments show that bed bugs do not hide in just any harborage; rather, they will select a harborage based on its color when moving in the light."

"We originally thought the bed bugs might prefer red because blood is red and that's what they feed on," said Dr. Corraine McNeill, one of the co-authors. "However, after doing the study, the main reason we think they preferred red colors is because bed bugs themselves appear red, so they go to these harborages because they want to be with other bed bugs, as they are known to exist in aggregations."

While this is a plausible explanation, many factors influenced which

color the bed bugs chose. For example, the bugs' color preferences changed as they grew older, and they chose different colors when they were in groups than when they were alone. They also chose different colors depending on whether they were hungry or fed. Furthermore, males and females seemed to prefer different colors.

The authors suggest that a possible explanation for why bed bugs avoided yellow and green colors is because those colors resemble brightly-lit areas. These findings are important because they may have implications for controlling the pests.

"We are thinking about how you can enhance bed bug traps by using monitoring tools that act as a harborage and are a specific color that is attractive to the bug," said Dr. McNeill. "However, the point isn't to use the color traps in isolation, but to use color preference as something in your toolkit to be paired with other things such as pheromones or carbon dioxide to potentially increase the number of bed bugs in a trap."

In light of these results, people might be tempted to throw out their red and black sheets in place of yellow and green ones. However, Dr. McNeill warns that they might not want to replace the contents of their linen closets just yet.

"I always joke with people, 'Make sure you get yellow sheets!'" said Dr. McNeill. "But to be very honest, I think that would be stretching the results a little too much. I think using colors to monitor and prevent bed bugs would have to be specifically applied to some sort of trap, and it would have to be used along with another strategy for control. I don't know how far I would go to say don't get a red suitcase or red sheets, but the research hasn't been done yet, so we can't really rule that out completely."

Interestingly, this study almost never happened in the first place.

"We were trying to think of a new avenue to control bed bugs," said Dr. McNeill. "My advisor at the time, Dr. Phil Koehler, said to me, 'You know, I don't think we have any recent studies regarding bed bug vision or how they respond to colors if they're looking for a harborage.' At first I laughed at him and said, 'Oh Dr. Koehler, bed bugs can't see color or use color in that way! That's ridiculous.' However, he encouraged me to not push the idea out the door until we had tried some preliminary tests. So, we did some preliminary testing and found that the [bed bugs](#) were specifically going to certain [colors](#) over others, especially as it pertained to harborages. From there, we took the idea and ran with it."

More information: "Behavioral Responses of Nymph and Adult *Cimex lectularius* (Hemiptera: Cimicidae) to Colored Harborages," [DOI: 10.1093/jme/tjw033](#)

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