Bed bugs are not repelled by commercial ultrasonic frequency devices

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Alternative means of controlling urban insect pests by using ultrasonic frequencies are available and marketed to the public. However, few of these devices have been demonstrated as being effective in repelling insect pests such as mosquitoes, cockroaches, or ants. Despite the lack of evidence for the efficacy of such devices, they continue to be sold and new versions targeting bed bugs are readily available.

However, according to a soon-to-be-published article in the *Journal of Economic Entomology*, commercial devices that produce ultrasound frequencies are NOT promising tools for repelling bed bugs. In "Efficacy of Commercially Available Ultrasonic Pest Repellent Devices to Affect Behavior of Bed Bugs (Hemiptera: Cimicidae)," , authors K. M. Yturralde and R. W. Hofstetter report the results of their tests of four commercially available electronic pest repellent devices designed to repel insect and mammalian pests by using sound.

The devices, which were purchased online, were used according to manufacturers' instructions. A sound arena was created for each ultrasonic device, in addition to a control arena which featured no sound. However, the authors found that there were no significant differences in the number of bed bugs observed in the control (no sound) and sound arenas, and that bed bugs were neither deterred nor attracted to the arena with the sound device.

The authors conclude that the ultrasonic devices may not have deterred or attracted bed bugs because they may not have produced the right

combination of frequencies. Bed bugs are commonly exposed to frequencies made by their host species (humans) and by appliances and machines found in homes. Therefore, it may be possible that bed bugs also would exploit sounds made by their human hosts, such as breathing or snoring. Future studies of bed bug bioacoustics may be served well by using low-frequency sounds produced by host species.

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