Love hertz

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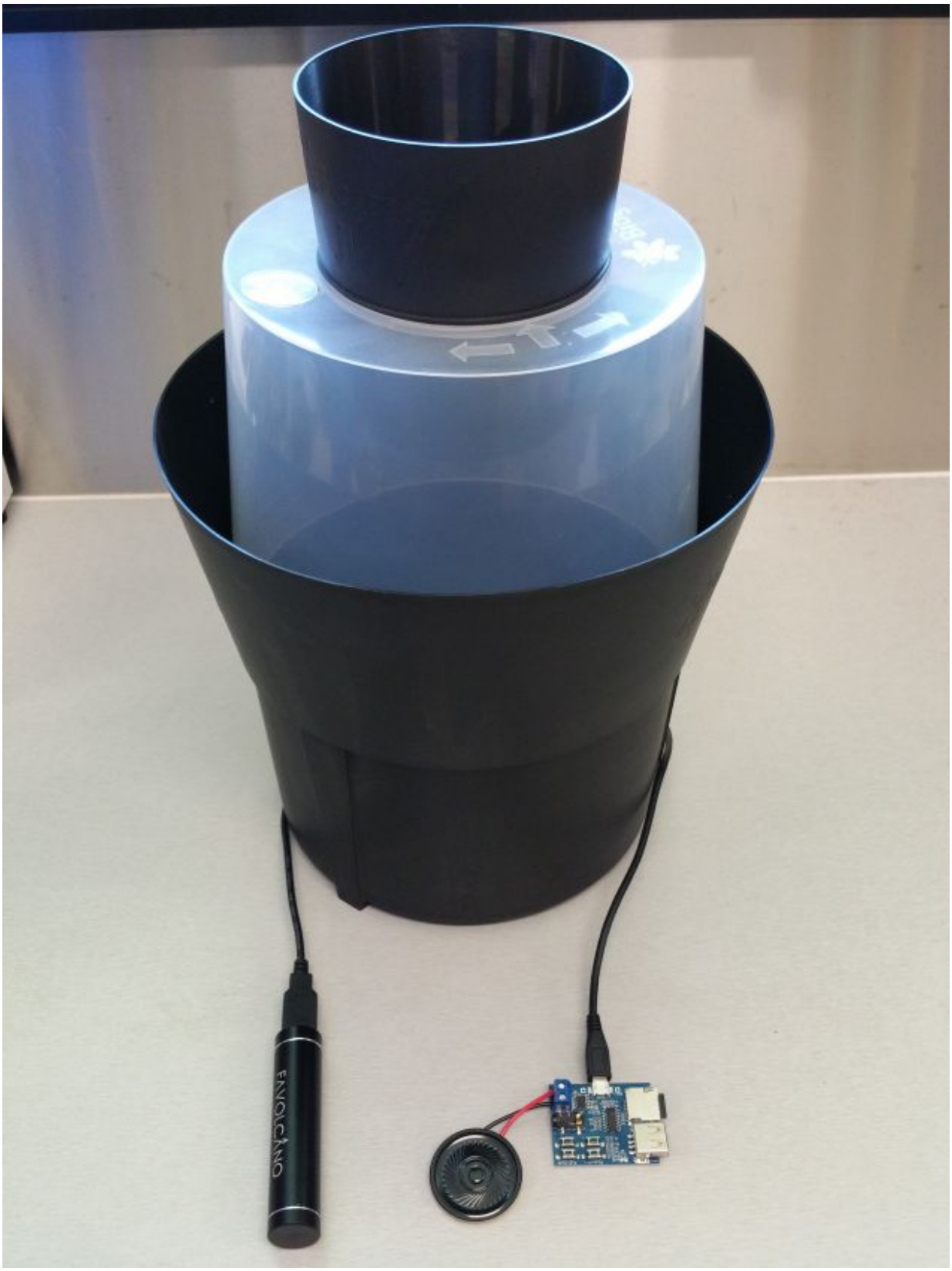
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Mosquito trap with sound-lure attached

James Cook University researchers have found sex sells when it comes to luring male mosquitoes.

Senior Research Officer Brian Johnson and Professor Scott Ritchie set out to make a cheap and effective audio lure for scientists collecting male *Aedes aegypti* mosquitoes—the species that carries dengue and yellow fever.

They found a tone of precisely 484 Hertz, the frequency of a female *Aedes aegypti's* wings, brought 95 percent of male mosquitoes to the trap.

Mr Johnson said the device cost around $20 and could be run by itself for weeks. "We started with a cheap mobile phone and moved to an even cheaper MP3 player. There are no harmonics, it's a pure tone and very simple to produce."

The effectiveness of the audio lure is easy to see: when it's switched on, mosquitoes flock to the device, and fly away as soon as it's turned off, as can be seen in the video (link below).

The invention of the audio trap is timely: male mosquitoes do not bite, but new anti-mosquito strategies involve capturing and sterilising them before releasing them to breed unsuccessfully with females.

"There are a number of projects underway," said Mr Johnson. "They required capturing and releasing tens of thousands of male mosquitoes, but most traps are aimed at capturing females."

He said there was no chance of eliminating mosquito populations by

trapping males alone, as only a few needed to survive to continue the breeding cycle.

The scientists also found that female mosquitoes were completely oblivious to the sound of male wing beats. "There's no real need for females to respond to male overtures," said Mr Johnson.

The team is now optimising the trap for field use and coordinating with trap manufacturers to add the feature to their products.

More information: The Siren's Song: Exploitation of Female Flight Tones toPassively Capture MaleAedes aegypti(Diptera: Culicidae), DOI: 10.1093/jme/tjv165

Provided by James Cook University