

Dengue-resistant mosquitoes to be released next year

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An *Aedes aegypti* mosquito feeding in Dar es Salaam, Tanzania. Image credit: Muhammad Mahdi Karim, GNU FDL.

(PhysOrg.com) -- Every year, dengue fever infects up to 100 million people and kills more than 20,000 of them. In an effort to reduce these numbers, scientists have infected mosquitoes with bacteria that makes them less able to carry the dengue virus, and plan to release these mosquitoes in Australia and Vietnam next year.

In a [study](#) published last year, Scott O'Neill of the University of Queensland in Brisbane, Australia, and colleagues found that the bacterium *Wolbachia* can inhibit the ability of several pathogens to infect *Aedes aegypti* [mosquitoes](#), the species that spreads dengue [fever](#). Previous research has identified a strain of *Wolbachia* that shortens mosquitoes' lifespans by about one-half. Since only elderly insects

transmit dengue, this advantage should also decrease the number of infections transmitted to humans.

Female mosquitoes that carry *Wolbachia* pass it down to their eggs, and scientists hope that these dengue-resistant mosquitoes will quickly dominate non-dengue-resistant mosquitoes. The researchers explain that dengue-resistant female mosquitoes have a competitive advantage over the others since they can reproduce with both dengue-resistant and non-dengue-resistant males, while non-dengue-resistant females can only reproduce with non-dengue-resistant males.

Researchers estimate that *Wolbachia* already infects more than 60% of all insect species, including many mosquitoes. However, *Wolbachia* is not found in most of the mosquito species that transmit human pathogens. The scientists hope that the combination of *Wolbachia*-mediated pathogen interference and life-shortening effect will together provide a powerful approach for controlling insect-transmitted diseases.

More information: via: [New Scientist](#)

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