

Manipulating sex balance in mosquitoes may be key to fighting spread of disease

Dengue and chikungunya are both viruses spread by a species of mosquito known as *Aedes aegypti*. Dengue sickens 50 million people worldwide and chikungunya infected about one million people in the Caribbean last year, as well as in Virginia, Florida and Puerto Rico. Insecticides are used to kill these mosquitos, but the mosquitos have developed resistance to many of those used.

Similar to the work done by researchers in London who developed a technique to control malaria, involving manipulating the genes carried by the male *Anopheles* mosquito, resulting in a sire who can only father male offspring (male mosquitoes don't bite and don't transmit diseases), Oxford University researchers who launched British biotech firm, Oxitec, developed a technique to use genetic engineering to fight dengue and chikungunya. Researchers "patented a method of breeding *Aedes aegypti* with fragments of proteins from the herpes simplex virus and *E. coli* bacteria as well as genes from coral and cabbage." The researchers then remove the female mosquitoes since the females mosquitos are the only ones that bite humans and then release the males. The males are then released into the wild and breed with wild females whose offspring will die due to the genetic manipulation. Oxitec is aiming to release these mosquitos into the wild this spring in Key Haven, FL.

Read full, original article: Genetically engineered mosquitoes added to the fight against dengue and chikungunya