GM mosquitoes produce only male offspring, eliminating entire populations in six generations

Scientists have found a way of genetically modifying mosquitoes to produce sperm that only creates males, offering a potential fresh approach to fighting and eventually eradicating malaria.

Researchers from Imperial College London tested a genetic method that distorts the sex ratio of Anopheles gambiae mosquitoes, the main transmitters of the malaria parasite, so that the female mosquitoes that bite and pass the disease to humans are no longer produced. In a study published in the journal Nature Communications, the team reported that in the first laboratory tests, the technique created a fully fertile mosquito strain that produced 95 percent male offspring.

“For the very first time, we have been able to inhibit the production of female offspring in the laboratory and this provides a new means to eliminate the disease,” said Andrea Crisanti, who led the research at Imperial’s department of life sciences.

The scientists introduced the genetically modified mosquitoes to five caged wild-type mosquito populations. In four of the five cages, this eliminated the entire population within six generations due to the lack of females. The hope is that if this could be replicated in the wild, this would ultimately cause the malaria-carrying mosquito population to crash.

“This is super cool work,” said Michael Bonsall, a reader in zoology at Britain’s University of Oxford. “Reducing mating potential of mosquitoes by modifying sperm is a population suppression technology. It will be very exciting to see how this … is now taken forward.”

Read the full, original article: Genetically modified mosquitoes offer hope in malaria fight