

## Could we end malaria with GE mosquitoes?

Every year, malaria-carrying mosquitoes kill more than 600,000 people, most of them children. Over the centuries, people have battled those mosquitoes in numerous ways, like draining swamps, spraying insecticides and distributing millions of bed nets. And yet malaria remains a menace across much of the world.

In papers published Thursday in the journals *Science* and *eLife*, scientists and policy experts propose fighting malaria in a new way: by genetically engineering the mosquitoes themselves.

A new technology for editing DNA may allow scientists to render the insects resistant to the malaria parasite, the authors contend. Or it might be possible to engineer infertility into mosquito DNA, driving their populations into oblivion.

The new technology could potentially be used against a wide range of other species that are deemed a threat, like invasive predators, herbicide-resistant weeds and bat-killing fungi.

Although research on this procedure, known as Crispr, is in its infancy, the authors of the new papers say it warrants a public discussion right now. Using the approach to genetically engineer wild species could be a boon to humanity on some fronts, but it could also lead to a broad spectrum of unplanned ecological harm.

“Rather than just running off and immediately let this thing loose, we should start having conversations about this,” said George Church, a Harvard geneticist and a co-author of the new papers.

Crispr is a system of molecules that allows scientists to alter DNA with exquisite precision. Researchers design the molecules so they attach to DNA at a specific location. They then slice out the DNA there — whether an entire gene or a snippet of one — and then prompt a cell to replace it with a new segment designed by the scientists.

Although the technology is just a couple of years old, researchers are already using it to alter the DNA of cells and lab animals. Some experiments also hint that doctors may someday be able to use it to treat genetic disorders. They could replace faulty genes with working versions.

But recently, Dr. Church and other Crispr experts began to wonder if the technology had another possible use: as a weapon against our natural enemies.

**Read the full, original story: [A call to fight malaria one mosquito at a time by altering DNA](#)**