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New DNA coding to track mosquitoes, fight disease

OSLO (Reuters) - A novel genetic technology will be used in Africa to track mosquitoes that can spread a disease disfiguring millions of people with often grotesque swellings, scientists said on Wednesday.

"DNA barcoding" -- a technique that quickly obtains a unique genetic code -- would be used to help identify mosquitoes that spread elephantiasis, a disease formally known as lymphatic filariasis (LF).

It will be the first time that the genetic coding is deployed against a major world disease, backers of the plan said. DNA barcoding is inspired by the black lines on products that are scanned at supermarket checkouts.

"The problem is that there are a whole series of similar-looking mosquito species," said James Edwards, board president of the Philadelphia-based JRS Biodiversity Foundation which is working with the University of Ghana on the project.

"This will help identify them," he told Reuters in a telephone interview. Mosquitoes have widely differing abilities to transmit LF so identifying species can help refine use of insecticides.

"The ability to precisely identify mosquito species in this way is a promising advance in the battle against LF, an often disfiguring disease that today threatens 1 billion people across roughly 80 countries," a statement said.

"Over 120 million people have the parasitic infection and more than 40 million have been permanently disabled or disfigured," it said.

Elephantiasis results from a microscopic, thread-like worm spread between humans by a mosquito bite. The worm larvae can clog the lymph system and cause grotesque swellings.

Daniel Boakye at the University of Ghana said the mosquito data would go into a database that could also help in tracking diseases such as malaria. He said the system could be applied to other regions of the world hit by elephantiasis.

Barcoding costs up to about \$75 per sample.

Genetic barcoding, launched in 2003, has promising applications such as in identifying tiny marine species in the ballast water of ships that can be unwittingly picked up and flushed out in another part of the globe, Edwards said.



A novel genetic technology will be used in Africa to track mosquitoes that can spread a disease disfiguring millions of people with often grotesque swellings, scientists say. Photograph by: Wolfgang Rattay, Reuters