

Local researchers involved in breakthrough malaria findings

Staff and wire reports

WASHINGTON -- Researchers, including a team from the University of Georgia, have sequenced the genes both for the parasite that causes malaria and for the mosquito that spreads it to humans.

The double triumph gives medical science new weapons in the war on a disease that kills almost 3 million people a year.

In parallel efforts that involved more than 160 researchers in 10 countries, scientists mapped the genes for *Plasmodium falciparum*, the deadliest form of malaria, and for *Anopheles gambiae*, a mosquito that prefers human prey and spreads malaria to millions with its bloodsucking bite.

The British journal *Nature* is publishing the complete genetic sequence of *P. falciparum*, and the U.S. journal [Science is publishing the mosquito gene sequence](#). The two publications jointly announced completion of the double-pronged research at news conferences on Wednesday in London and in Washington, according to the Associated Press.

The UGA researchers involved in the work include [Mark Brown](#), an internationally recognized mosquito biologist, Joe Crim and Stephen Garczynski of the department of cellular biology, and Michael Riehle, an entomologist from the College of Agricultural and Environmental Sciences.

The UGA researchers, along with Catherine Hill of the University of Notre Dame, discovered 35 genes in *Anopheles gambiae*, including five that probably have pivotal roles in the life cycle of the mosquitoes.

Researchers hope gene mapping will reveal genetic vulnerabilities that can be exploited to control the mosquito that is essential to the parasite's deadly work.

Already scientists have identified gene weaknesses that may be exploited to disrupt the life cycle of the malaria parasite.

For the mosquito, researchers have found genes that may lead to better insecticides or repellents, and to a better understanding of why the insect prefers humans for its blood meal.

Completing the gene mapping of malaria and its vector comes at a critical time in international public health, officials said. Studies show malaria is becoming increasingly resistant to chloroquine, a drug that has helped hold the line on the disease for decades. At the same time, the mosquito has become tougher to control with current insecticides.

The advances also come in an era when some experts fear a warming climate will allow the resistant malaria parasite to move into areas where it has been rare or unknown for many years. Officials said that malaria, though of a different strain, was detected in both humans and mosquitoes in Virginia recently, the first time in two decades that a wild reservoir of malaria has been found in this country.

Published in the Athens Banner-Herald on Thursday, October 3, 2002.