



◀ Microbiologist Flor Pujol works at her desk at the Venezuelan Institute for Scientific Research in Caracas, Venezuela. [Photo provided]

# THE RESOURCES FOR IMPROVING HEALTH

by Sean Treacy

*TWAS research grants are supporting scientists like Flor Pujol, who heads a Venezuelan virology lab, and Joseph Mwangangi of Kenya, who studies mosquitos and malaria.*

If you want to fight mosquitoes that spread malaria, you have to understand the mosquito lifestyle. Where do they go to breed? Where do their young flourish and grow strong? How do these habitats come to exist?

These are questions that Kenyan entomologist Joseph Mwangangi of the Wellcome Trust Research Programme in Kilifi, Kenya, seeks to answer with

his research. “Life in water determines the body size of a mosquito,” said Mwangangi. “This is important, in that bigger mosquitoes are more healthy. They can survive and transmit the disease more.”

To understand which pools of water create the healthiest mosquitoes, Mwangangi needed mosquito-rearing chambers – cases in which he could simulate environments where mosquitoes breed. But he needed financial help to get the chambers. He got it in 2010, through a research grant from TWAS.

Across the regions of the world where people are most vulnerable to devastating diseases, local research is an essential part of the battle. TWAS grants have been an important part of this effort, helping scientists throughout the developing world acquire the funding they need to

establish labs, invigorate research careers and make key discoveries. Much of this work in epidemiology and medicine was on display at the TWAS Research Grants Conference held in Trieste, Italy, from 18-22 April.

Among Mwangangi’s findings was that 90% of the malaria mosquitoes in Kenya breed in still pools created by human beings, such as unfilled holes left behind from construction and abandoned swimming pools. This is indispensable information, because it helps the government prioritize measures to keep the insects under control.

“TWAS, to me, was like a seed grant, which enabled us to build a fundamental group in vector biology,” he said. “The Ministry of Health looks to us for information now on adult mosquitoes.”

Microbiologist Flor Pujol of the Venezuelan Institute for Scientific Research in Caracas, is the head of a virology lab. She got her first TWAS grant in the late 1990s, which gave her career a boost and helped her create a new molecular virology lab in 2002.

Thanks to that support over 15 years ago, she was able to train local scientists in virology in her home country. Now there is a stronger corps of virologists that can respond to outbreaks, all of whom are needed at the moment to diagnose the Zika virus and determine ways to slow its spread.

“It helped me to get more confident in applying for international grants. It helped me to acquire graduate students,” said Pujol. “We now have more minds working on the Zika problem.” ■

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