Fighting malaria in the mosquito’s gut

Mosquito nets and preventive healthcare have been important tools in protecting against the malaria parasite for many years, but the disease is still affecting several hundred million people every year.

A group of researchers at SLU are now attempting to use genetic technology to fight the parasite in the gut of the mosquito. It is not the malaria mosquitoes which will be genetically modified, but bacteria that live in the mosquito’s gut and grow rapidly when the mosquito gets a blood meal. The idea is to modify these bacteria so that they produce substances that stop the malaria parasite from developing further.

The researchers are focussing on a new family of bacteria, Thorssellia, named after the Swedish mosquito researcher Walborg Thorsell. These bacteria are common amongst mosquitoes not only in Africa, but also in other parts of the world where malaria is a problem.

In this pilot project, efforts are being made to determine exactly which properties of these bacteria make them common in malaria mosquitoes. Research is also under way in collaboration with Brazilian colleagues concerning the occurrence and genetic variation of Thorssellia bacteria in important mosquito-hatching areas.

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