

## **Abstract**

Malaria is an infectious disease causing high lethality, mainly in tropic and subtropic Africa. The disease is caused by unicellular *Plasmodium* and transmitted by infected *Anopheles* mosquito females. Genetic manipulations in mosquitos are promising approach in malaria vector control. There are two important ways of genetic manipulations in mosquitos: reduction and substitution strategies. In the former one, transgenic male mosquitos are used to achieve long term mosquito population size reduction. The aim of different substitution strategies is the production of transgenic mosquitos refractory to Plasmodium infection, unable to ensure Plasmodium development. These transgenic insects should replace the original mosquito population. Both strategies are under proposals and testing in laboratory conditions.

**Key words:** Transgenic mosquitos, vector, Plasmodium, malaria