

## **Prospects For Malaria Control Through Manipulation Of Mosquito Larval Habitats And Olfactory-Mediated Behavioural Responses Using Plant-Derived Compounds.(2017)**

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### Abstract

Malaria presents an overwhelming public health challenge, particularly in sub-Saharan Africa where vector favourable conditions and poverty prevail, potentiating the disease burden. Behavioural variability of malaria vectors poses a great challenge to existing vector control programmes with insecticide resistance already acquired to nearly all available chemical compounds. Thus, approaches incorporating plant-derived compounds to manipulate semiochemical-mediated behaviours through disruption of mosquito olfactory sensory system have considerably gained interests to interrupt malaria transmission cycle. The combination of push-pull methods and larval control have the potential to reduce malaria vector populations, thus minimising the risk of contracting malaria especially in resource-constrained communities where access to synthetic insecticides is a challenge. In this review, we have compiled information regarding the current status of knowledge on manipulation of larval ecology and chemical-mediated behaviour of adult mosquitoes with plant-derived compounds for controlling mosquito populations. Further, an update on the current advancements in technologies to improve longevity and efficiency of these compounds for field applications has been provided.

### Keywords

Malaria Vector control Anopheline mosquitoes Plant-derived compounds Larval habitat manipulation Mosquito functional ecology Integrated vector management

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