

Abstract

The efficiency of an electronic device meant to disrupt acoustic communication between male and female *Anopheles* Gambian mosquitoes was tested by recording approaches of the males towards the device as a function of distance and frequency. Different bio assays were conducted with broadcasts from the device and taped mimics of the female species wing beats at different distances and frequencies. A large number of the males, 85% remained near the broadcast speaker for a significantly longer period when the broadcast sounds device were at 380 Hz than at any other frequency range. The taped mimic sounds of the female mosquitoes in flight elicited a maximum response rate of 75%. A test involving a choice between the device and taped sound mimics by male mosquitoes revealed that a high number (75 %) of them flew towards the device while 10% were attracted by the taped sounds whereas 15 % were undecided and made oscillatory motion between the two sources. Additional bio assays conducted to examine the effect of the device on non-flying males showed that almost 75 % were disturbed and approached the speaker within a distance of 0.5 m which confirmed a radiative near-field communication for these insects.