

## **8. Mosquitoes**

### **8.1 The effect of ultrasound on the behaviour of mosquitoes**

Despite lack of scientific evidence, equipment is being sold that claim to repel mosquitoes based on the emission of ultrasound. An experimental set-up was designed by Eric Valverde at the Technical University of Denmark in collaboration with DPIL to investigate the possible repellent effect of ultrasound on mosquitoes. Mosquitoes (*Aedes aegypti* and *Culex* sp.) were confined in small cages and exposed to mono-frequency sound pulses with variable pulse length and sound intensity, and the behavioural response of the mosquitoes was observed on video. A frequency range from 400 Hz to 40 kHz was covered in the experiments.

The mosquitoes showed no behavioural response to the ultrasound stimulation at all (intensities up to 100 dB). A slight attractive response was observed when male mosquitoes were stimulated with low frequency sound (400-500 Hz). This is a well known response of male mosquitoes to the flight tone of female mosquitoes. The conclusion of the study is that ultrasound produces no clear behavioural response in mosquitoes, and thus there is no indication that commercial ultrasound devices could be effective in repelling mosquitoes.

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