Abstract

The audio spectra of three different species of female mosquitoes in flight were taped and analyzed. This work has established the modulating frequency (intelligence) to be at 97.7 Hz for all the species of mosquitoes studied, namely; Culex pippen, Anopheles gambiae and Aedes egypti. The signal carrier frequency is 488.3 Hz for all the species, except for the medically important Anopheles gambiae which is at 293 Hz. Bessel functions were used to determine the number of audio side bands or the bandwidth (BW). The bandwidth for the medically important Anopheles gambiae was found to be 781.6 Hz. The first order sidebands (±f1) that is, (±97.7) were found to be the resonant frequencies occurring at 195.4 Hz and 390.6 Hz respectively, with an amplitude of 9.57 mV. Other species, i.e. Aedes egypti and a 'swarm' had a bandwidth of 1.36 kHz with resonant frequencies occurring at the second order sidebands (±f2) or, 395 Hz and 786 Hz with an amplitude of 10.22 mV. The limits of the operational band created by the resonant frequencies enable the males to identify females of their kind.