

Description

Until recently, it was believed that eardrums were required for long-range hearing, but mosquitoes and some insects use their feathery antennae with fine hairs to hear close distance of few inches. However, a study conducted by Ron Hoy, professor of neurobiology and behavior at Cornell and Gil Menda, a postdoctoral researcher, proved it is possible to hear long-range without an eardrum. Their study has now provided neurophysiological and behavioral evidence that *Aedes aegypti* mosquitoes can hear human speech from a distance of 10 meters or 32 ft. The mosquito is a vector to the viruses causing yellow fever, Dengue, Zika, West Nile and Chikungunya. The experiment was conducted in a super-quiet anechoic room. Mosquitoes were fitted with an electrode in their brains and the neurophysiological recordings of the auditory nerve were recorded when stimulated by pure-tones produced from a loudspeaker 10 meters away. “They’re hearing at distances that normally require eardrums, but these are hairs,” said Hoy. Eardrums work by picking up pressure from sound waves, while tiny hairs sense sound from air particles vibrating at certain frequencies. The scientists observed the sweet spot of frequency that mosquitoes are sensitive to was between 150-500 Hertz. An average human speech is in the range of 150 to 900 Hertz.

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Category

1. Checklist

Date Created
2019/03/24
Author
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