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US team develops tool to identify disease-carrying mosquitoes

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The tool comprises a smartphone camera, 3D-printed box and simple chemical test to assess if a dead mosquito is of the Aedes aegypti species.

A team of researchers at the University of Texas has developed a new diagnostic tool to identify a species of mosquito that carries harmful viruses such as Zika, dengue, chikungunya and yellow fever.

The tool comprises a smartphone camera, 3D-printed box and simple chemical test to assess if a dead mosquito is of the Aedes aegypti species.

In addition to disease-carrying mosquitoes, the new diagnostic tool can also identify the presence of a biopesticide called Wolbachia.

Wolbachia is a type of bacteria that can prevent mosquitoes from spreading diseases. It is being used by public health agencies to infect mosquitoes in order to control the transmission of viruses.

The new tool can be used to track Wolbachia effectiveness. It is expected to provide a better alternative for existing tests that are considered hard-to-read, costly and not logistically convenient.

It is designed to analyse the nucleic acid of mosquitoes and delivers results as a yes or no readout on a smartphone. The tool is said to detect the target with more than 97% accuracy.

Apart from identifying disease-carrying mosquitoes and Wolbachia, the researchers are working towards the application of this technology to easily detect if trapped mosquitoes are carrying pathogens.