

# Scientists take the temperature of dengue fever risk

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Credit: Tommaso Chiodo

When disease-bearing mosquitoes expand into new habitats, public health officials should test the ability of new arrivals to transmit viruses at a variety of temperatures, a new Yale-led study suggests.

Scientists have known that temperature plays a key role in transmission

of viruses such as dengue by the mosquito species *Aedes aegypti*, which has expanded its range in the United States over the past decade. The [genetic makeup](#) of different mosquito populations can affect its ability to transmit the virus.

The new study, published Oct. 4 in *Proceedings of the Royal Society B* shows that temperature, is a key variable in the ability of two genetically distinct populations of *Aedes aegypti* from Vietnam to become infected with dengue.

"How temperature affects a mosquito's response to the virus, depends upon its genetics," said Andrea Gloria-Soria, associate research scientist of ecology and evolutionary biology and first author of the study. For instance, it is possible that a population of mosquitoes introduced to temperate New England from Rio de Janeiro, Brazil may represent a bigger danger of a dengue outbreak than a population arriving from Texas, she said.

**More information:** A. Gloria-Soria et al. Infection rate of *Aedes aegypti* mosquitoes with dengue virus depends on the interaction between temperature and mosquito genotype, *Proceedings of the Royal Society B: Biological Sciences* (2017). [DOI: 10.1098/rspb.2017.1506](https://doi.org/10.1098/rspb.2017.1506)

Provided by Yale University

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