

# Dengue mosquito hitched ride from southeast US to reach California

August 7 2014, by Ill Hathaway

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The *Aedes aegypti* mosquito is the primary vector in transmission of Dengue Fever.

(Medical Xpress)—The mosquito that transmits Dengue Fever probably arrived in California by plane or railway from the southeastern United States—and not from Mexico—a DNA analysis by Yale University researchers has found.

"At the border with Mexico, California has some of the best defenses against introduction of foreign insects," said Jeffrey Powell, professor of ecology and evolutionary biology and senior author of the paper appearing in the journal *PLoS Neglected Tropical Diseases*. "This study suggests we need also to be looking at air and rail transportation from other regions as well."

California health officials became alarmed in 2013 when they discovered *Aedes aegypti* mosquito—the primary vector in transmission of Dengue Fever—in three widely scattered California communities. Dengue infects between 50 and 100 million people annually, causing severe and even fatal illnesses in tropical areas of the globe. However, with warming temperatures both the mosquito and the virus have expanded their range northward and have reached areas of the southern United States.

Powell and colleagues did a comparative analysis of genomes of *A. aegypti* in the southeastern United States and those found in Mexico and Arizona. The genetic analysis showed that the mosquitoes found in Fresno, Madera, and San Mateo, California most likely came from the southeastern United States.

In California, there have been no reported cases of Dengue being transmitted locally by [mosquitoes](#) but Powell points out that the virus tends to follow its mosquito host. For instance, a mosquito can transmit the virus from a person infected outside California by feeding on uninfected individual in the state. In 2013, there were 124 imported cases of Dengue reported in California.

Provided by Yale University

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