

First Chikungunya-infected *Aedes aegypti* mosquitos found in Brazil

22 June 2017



One of the visited neighborhoods during the mosquito collections in Aracaju. Credit: Andre Luis da Costa da Silva

While more than 13,000 cases of Chikungunya viral disease were reported in Brazil in 2015, scientists had never before detected the virus in a captured mosquito in this country. Now, researchers reporting in *PLOS Neglected Tropical Diseases* have identified a mosquito—caught in the Brazilian city of Aracaju—that's naturally infected with the East-Central-South-African (ECSA) genotype of Chikungunya.

Chikungunya, which often causes a fever and joint pain, is endemic in Africa and Asia and was first reported to be transmitted within Brazil in 2014. Researchers have identified three genotypes of Chikungunya virus (CHIKV)—ECSA, West African, and Asian. Both ECSA and Asian genotypes of CHIKV have been reported in patients in Brazil, and all Brazilian states are infested with *Aedes aegypti* and *Ae. albopictus* mosquitos, which have both been shown to be possible vectors of CHIKV in the lab.

In the new work, Margareth Capurro, of the University of Sao Paulo, Brazil, and colleagues collected 248 mosquitos from both inside and

outside homes in urban areas of Aracaju, where residents were complaining of symptoms consistent with CHIKV or related diseases. They then tested the mosquitos for CHIKV, as well as [dengue virus](#) and Zika virus.

Four strains of mosquitos were captured, with *Culex quinquefasciatus* the most common, making up 78.2%, and *Ae. aegypti* making up 20.2% of the mosquitos. One female *Aedes aegypti* mosquito was identified as carrying CHIKV and when the genome was sequenced, it was found to be the ECSA genotype. No mosquitos carrying dengue or Zika were identified in the current study.

"The surveillance of the *Aedes* mosquito should be expanded in order to prevent new CHIKV outbreaks in Brazil, since this country presents adequate conditions for the establishment of an endemic situation, which can also expose other countries at risk," the authors write.

More information: Andr? Luis Costa-da-Silva et al, First report of naturally infected *Aedes aegypti* with chikungunya virus genotype ECSA in the Americas, *PLOS Neglected Tropical Diseases* (2017). [DOI: 10.1371/journal.pntd.0005630](https://doi.org/10.1371/journal.pntd.0005630)

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