



The Connecticut Agricultural Experiment Station

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Study Documents Northern Range Expansion of the Asian Tiger Mosquito (*Aedes albopictus*) in Connecticut

New Haven, CT- Scientists from the Connecticut Agricultural Experiment Station (CAES) have documented the establishment and range expansion of the Asian tiger mosquito, *Aedes albopictus* in Connecticut, in an article published in *PLoS Neglected Tropical Diseases*.

Aedes albopictus is an invasive mosquito species that originated from East Asia and appears to be undergoing northward range expansion in the U.S. *Ae. albopictus* mosquitoes are aggressive human biters and can spread several disease causing viruses including, chikungunya, dengue, Zika, and West Nile virus.

Winter temperature is an important constraint for the northward expansion of this mosquito. Connecticut had previously been estimated to be near the northern boundary of its potential range. In this study, the team monitored mosquitoes statewide over a twenty-year period, 1997 to 2016 as a part of a state-supported mosquito-borne disease surveillance program. *Ae. albopictus* was first detected in an isolated finding in 2006 and thereafter from 2010 to 2016 at several locations with local overwintering and increasing abundance and distribution each successive year, especially following mild winter conditions.

Populations were most abundant in urban and suburban locations along Connecticut's southwestern shoreline, but were occasionally detected in central parts of the state. Two different viruses, Cache Valley and West Nile virus were isolated from the mosquitoes, further indicating that the species poses a disease threat to humans.

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"This is the first documentation of *Ae. albopictus* overwintering in New England," said Dr. Philip Armstrong, lead author and Medical Entomologist at CAES. "Furthermore, our data demonstrates how mild winters affect the seasonal abundance and overwintering success of this mosquito".

"We would anticipate further expansion and build-up of this species with projected climate change," said Dr. Theodore Andreadis, co-author and Director of CAES. "Its aggressive biting behavior and ability to transmit a cadre of human disease causing viruses clearly warrant further study and close monitoring through our statewide surveillance program."

Journal Reference

Armstrong PM, Andreadis TG, Shepard JJ, and Thomas MC (2017) Northern range expansion of the Asian tiger mosquito (*Aedes albopictus*): Analysis of mosquito data from Connecticut USA. *PLoS Neglected Tropical Diseases* 11(5): e0005623. <https://doi.org/10.1371/journal.pntd.0005623>

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