

Mosquito egg hunt: Many *Culex* species prefer alternatives to standing water

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The conventional wisdom about where many mosquitoes lay their eggs—in standing water—is not always wise. Research into a diverse group of mosquitoes shows that many, if not most, regularly lay their eggs on a variety of surfaces, and in a surprising location: above nearby water. The findings run counter to scientific generalizations about the mosquitoes' egg-laying habits and may complicate the work of researchers and mosquito control professionals.

In a study to be published next week in the Entomological Society of America's *Journal of Medical Entomology*, researchers at the University of Florida (UF) showed that several species of mosquitoes in the genus *Culex*, subgenus *Melanoconion*, lay their eggs on surfaces above standing [water](#), contrary to the behavior of other *Culex*.

"Our findings show us that even the most classic paradigms in medical entomology need to be closely scrutinized," says Nathan D. Burkett-Cadena, Ph.D., assistant professor at the UF Florida Medical Entomology Laboratory and co-author of the study.

The mosquito species *Culex pipiens*, for instance, has been well studied due to its prominent role in transmission of human pathogens such as West Nile virus. The focus on *Culex pipiens* and related mosquitoes has resulted in an apparent over-generalization that laying of eggs as a "raft" on the surface of standing water is common across all *Culex* species. The UF researchers' examination of species in subgenus *Melanoconion*—along with a review of historical research on other *Culex*

species—suggest that "the generalized floating egg raft strategy does not apply to the vast majority of *Culex* species," they write.

The mosquitoes egg-laying behaviors were studied with a laboratory setup in which [female mosquitoes](#) were placed in screened cages with dishes containing both standing water and partially submerged objects, such as a terra cotta or segments of mangrove roots. The researchers then recorded where the mosquitoes laid their [eggs](#). Surprisingly, most egg clusters were laid on surfaces of the terra cotta and roots, not on open water, as textbooks would have predicted.

Mosquito [species](#) in subgenus *Melanoconion* are known vectors of eastern equine encephalitis and Venezuelan equine encephalitis. A clearer understanding of their egg-laying habits will help mosquito control professionals better target them, though Burkett-Cadena says they may "find it challenging to reach their targets due to the odd oviposition of the [mosquitoes](#)."

"Oviposition Strategies of Florida *Culex* (Melanoconion) Mosquitoes," by Erik M. Blosser and Nathan D. Burkett-Cadena, will be published online on April 12 in the *Journal of Medical Entomology*.

More information: *Journal of Medical Entomology* (2017). [DOI: 10.1093/jme/tjx052](https://doi.org/10.1093/jme/tjx052)

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