

**Final Report of FDACS Contract No. 008530 "Is *Aedes albopictus* a Vector of West Nile Virus (or SLE and EEE) in Florida?"**

The purpose of this (2004-05) research program was to test whether wild-caught *Aedes albopictus* might be infected in nature in Florida with one or more of the important mosquito-borne viruses known to afflict man in our State (WNV, SLE, EEE). The factors stimulating this study were: (i) WNV-infected *A. albopictus* recorded in 2002 from 11 other states and the D.C.; (ii) this mosquito species frequently bites man in Florida and is readily infected with WNV in the laboratory but is rarely tested for viruses because of its infrequency in commonly used mosquito traps; (iii) commercial kits have made testing for the above-mentioned arboviruses relatively simple.

WNV activity was surprisingly low in Florida during 2004 and concentrated in urban Miami-Dade County, where *A. albopictus* is relatively inabundant. Therefore, we chose to test *A. albopictus* wild-caught by power aspirator from central Florida during the summers of 2002 and 2003 from regions with known histories of WNV activity during those periods. 17 independent samples from Gainesville (n = 921 *A. albopictus*), 10 samples from Ocala (n = 650 *A. albopictus*), 5 samples from Williston (n = 250 *A. albopictus*), 4 samples from Orange Lake (n = 200 *A. albopictus*), and 2 samples from Lake City (n = 100 *A. albopictus*) were negative for WNV, SLE, and EEE by Vec-Test® antigen panel assays (Vec-WSE50). Owing to lack of evidence of arboviral infections, we terminated testing these samples after 2,141 virus-negative *A. albopictus*.

In 2005 through the period covered by this contract (June 30), WNV activity was even lower in Florida than in 2004, with not a single human case diagnosed and signs of virus activity limited to sporadic and non-focal positive sentinel chickens. No mosquitoes of any species tested positive for WNV during the first half of 2005. Given the unlikelihood of detecting arboviruses in mosquitoes when more sensitive methods of surveillance indicated low levels of activity in nature, we decided in the best interests of this project to conserve resources and await future opportunities to capture wild *A. albopictus* in the context of higher levels of WNV transmission in Florida.

Therefore, albeit officially terminated, the objectives of this DACS project will continue to be pursued as long as the investigators have the resources to collect *A. albopictus* and process the specimens with Vec-Test® antigens. Our strategy will continue to rely on avian surveillance systems in Florida to identify arbovirus "hot spots" for *A. albopictus* sampling. With assistance from local MCDs we will undertake intensive collections of *A. albopictus* from such "hot spots" and submit specimens to arbovirus detection methods. Any positive evidence for virus infections would be reported at a forthcoming FMCA meeting.

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