

SCIENTIFIC NOTE

DISCOVERY OF *Aedes albopictus* INFECTED WITH WEST NILE VIRUS IN SOUTHEASTERN PENNSYLVANIA

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ABSTRACT. In August 2000, *Aedes albopictus* was found in a CO₂-baited Centers for Disease Control light trap in eastern Philadelphia, PA. In late September 2000, West Nile viral antigen was detected by reverse transcription–polymerase chain reaction testing from a pool of 2 *Ae. albopictus* mosquitoes that were collected in southwestern Montgomery County.

KEY WORDS *Aedes albopictus*, West Nile virus, southeastern Pennsylvania

Aedes albopictus (Skuse) was reported in York County, Pennsylvania, in 1993 (Pagac, unpublished data, 1995), although surveillance the following year failed to find any *Ae. albopictus*. This mosquito has also been reported in New Jersey (Crans 1996). Spurred by the outbreak of West Nile virus (WN) in New York during 1999, Pennsylvania started a mosquito surveillance program in 2000. That cooperative program is responsible for the work presented here.

In August 2000, the Philadelphia Department of Public Health (PDPH) in conjunction with the Pennsylvania Department of Environmental Protection (PADEP) trapped *Ae. albopictus* in a CO₂-baited Centers for Disease Control (CDC) light trap. A survey of the trap location found numerous *Ae. albopictus* in the vegetation surrounding the light trap. Further inspection revealed *Ae. albopictus* larvae in a tire pile at an adjacent property. This constituted the 1st record of *Ae. albopictus* in southeastern Pennsylvania.

Citizen complaints helped locate 2 additional sites in Philadelphia, 1 in urban Center City and 1 in Fairmount Park. In the Center City location, breeding was found in an abandoned artificial pond. In the Fairmount Park case, a park employee presented the PDPH with several adult *Ae. albopictus*. Although this species did not trap well in CO₂-baited CDC light traps, the PADEP was able to collect 2 additional pools by aspiration. These pools tested negative for WN.

The PADEP performed the CO₂-baited CDC light trapping of mosquitoes for virus isolation in Montgomery County during the 2000 season. The method used to submit samples to the Pennsylvania

Department of Health (PADOH) laboratory for WN testing was to set traps in late afternoon and to collect the following morning. The mosquitoes, while still in the trap nets, were placed in a cooler with dry ice for ~20 min. The nets were then emptied on a cold surface and the mosquitoes were separated and placed in chilled 15-ml tubes. The tubes were returned to the dry ice cooler. The samples were maintained on dry ice or stored in a -70°C freezer until testing at the PADOH laboratory.

In September 2000, the PADEP trapped 2 *Ae. albopictus* in a CO₂-baited CDC light trap in southwestern Montgomery County. These 2 mosquitoes comprised a pool sent to the PADOH for virus testing. This pool tested positive for WN by the reverse transcription–polymerase chain reaction (RT-PCR) method. The PADOH used the CDC procedure for WN RT-PCR testing. Montgomery County, after being informed of the results, had their contractor (Clarke Environmental Mosquito Management[®], Roselle, IL) identify the probable source of *Ae. albopictus*. Larvae of *Ae. albopictus* were found in several shaded abandoned tires on private property in that area in southwestern Montgomery County.

The work by M. J. Turell of U.S. Army Medical Research Institute of Infectious Diseases on WN vector competence (Turell et al. 2001) suggested that *Ae. albopictus* may be a serious concern in the transmission of WN. The PDPH and the PADEP have designated *Ae. albopictus* surveillance and control as a priority because of its high vector competence in laboratory studies and the ratio of positive mosquitoes relative to the population sampled in the 2000 surveillance season. Surveillance changes to improve *Ae. albopictus* detection will be increased larval identification and the use of Faye–Prince traps for adults.

REFERENCES CITED

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