

## OPERATIONAL AND SCIENTIFIC NOTES

Aedes albopictus Larvae Collected from Tree Holes  
in Southern Indiana

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The Asian Tiger Mosquito, *Aedes albopictus* (Skuse) was first discovered in Indiana on September 15, 1986, at a tire yard in Vanderburgh County. Subsequently, infestations were found in two tire yards in Marion and Dearborn counties. These counties are located in central and southeastern Indiana, respectively.

With the cooperation of local health departments, these sites were surveyed through the summers of 1987 and 1988 to monitor the spread of the infestation away from the initial foci. This survey primarily utilized landing-biting counts at varying distances from the initial focus, but material from tree holes and containers was collected whenever possible. In the course of these activities, *Ae. albopictus* larvae were collected from tree holes near the Vanderburgh and Dearborn County sites in September of 1988. This is the first known instance of *Ae. albopictus* being collected from tree holes in any of the midwestern foci.

The Vanderburgh County site is a tire yard located on the southwestern edge of Evansville, Indiana. No accurate estimate of numbers of tires at this site is available, but it is doubtful that more than 100,000 tires were present at any given time. The eastern third of the tire pile lies in a dense stand of mixed hardwoods, primarily elm (*Ulmus* spp.) and maple (*Acer* spp.). Several tree holes are located in these woods within 300 meters of the tire yard, but due to drought conditions this summer, all were found to be dry. Collections from two of these tree holes in the summer of 1987 yielded 10 *Orthopodomyia signifera* (Coquillett), 2 *Toxorhynchites rutilis septentrionalis* (Dyar and Knab) and, in one instance, a single *Culex pipiens* Linnaeus. On September 12, 1988, *Ae. albopictus* and 2 *Aedes triseriatus* (Say) larvae were collected from a rot hole in a sugar maple (*Acer saccharinum*) roughly 1 km east from the initial site of introduction. The opening of this tree hole was about 50 cm above ground level and was encircled by the multiple stems of the tree. The cavity was approximately 13 cm in diameter and held 500 milliliters of water and organic debris. A collection of material from this same tree hole on July 19, 1988, contained only 15 *Ae. triseriatus* larvae.

*Aedes albopictus* was not found in Dearborn County, Indiana, until August 19, 1987. This site, approximately 4 km west of Dover, Indiana,

is estimated to contain as many as 6 million tires. These tires lie in a large, open pasture that is well-mowed and free of trees and brush. A mowed strip of land at least 10 m wide surrounds the pile on all sides. Heavy woods border the pasture to the south and east, the remainder being adjacent to agricultural land. The woods nearest the tire yard are composed primarily of new growth mixed hard woods with dense understory. Older stands of oak (*Quercus* spp.), hickory (*Carya* spp.) and maple (*Acer* spp.) are generally situated 30 m or more from the edge of the pasture.

The Dearborn County site was initially checked for *Ae. albopictus* in September of 1986 and found to be negative, although a single biting *Aedes aegypti* (Linn.) was observed. Surveys of the site through the summer of 1987 yielded large numbers of biting *Ae. triseriatus* and *Ae. albopictus*, but no larvae of *Ae. albopictus* were found in tires or other containers until the summer of 1988.

On September 20, 1988, a survey of the wooded areas adjacent to the tire yard for biting adults and larval habitats resulted in the discovery of a single tree hole at the base of a large ash (*Fraxinus* spp.), located approximately 60 m south of the stacks of tires. The cavity extended several centimeters below ground level and contained 450 ml of deeply tinted water. This material was found to contain 7 *Ae. triseriatus* and one *Ae. albopictus* larvae. The water and debris were then kept in the laboratory for another 4 weeks, and an additional 155 *Ae. triseriatus* larvae were collected from it. Identifications of all *Ae. albopictus* larvae were confirmed by Michael J. Sinsko of the Indiana State Board of Health, and the specimens were deposited in the larval reference collection of that agency.

The colonization of tree cavities by *Aedes albopictus* in Indiana makes the prospect of eradication more difficult than originally thought. Once established, *Ae. albopictus* may become involved in the transmission cycles of indigenous vector-borne diseases, such as LaCrosse encephalitis. In our experience, *Ae. albopictus* seems to use a much wider variety of containers as oviposition sites than does *Ae. triseriatus* and may make the LaCrosse virus problem more complicated for state and local health authorities.