

**New Distribution Records for *Aedes atropalpus*
Breeding in Tires in Indiana**

VIVIE E. DUNN, BRADLEY E. FOSTER AND ERIC McDONALD
Vector Control Section, Indiana State Board of Health
Indianapolis, Indiana 46206

The Rockhole Mosquito, *Aedes atropalpus* (Coquillett), was first discovered in Indiana breeding in discarded tires at a St. Joseph County auto salvage yard in 1979 (Restifo and Lanzaro, 1980). Previously, *Ae. atropalpus* was not reported from Indiana, Ohio, or Kentucky, though it was found in Michigan and might be found in Indiana as well (Siverly, 1972). Subsequently, several more populations of *Ae. atropalpus* have been found in Indiana.

During the summers of 1986-87, the Vector Control Section of the Indiana State Board of Health conducted an extensive survey of tire accumulations for *Aedes albopictus*. In the course of this statewide survey, approximately 200 tire dealerships, retreaders, and scrap tire piles were examined and recorded. Tire sites believed to be at higher risk of infestation were inspected several times during each season. In addition to the discovery of three *Ae. albopictus* populations, nine infestations of *Ae. atropalpus* were recorded. This information is of interest because *Ae. atropalpus* was previously not known to be indigenous to Indiana, and its presence is likely to reflect interstate movement of tires. Hence, *Ae. atropalpus* may serve as an indicator for sites at risk of infestation by *Ae. albopictus*.

The following are records of adult and larval collections of *Ae. atropalpus* from tire sites in Indiana.

Marion County, Indianapolis, Indiana:

One larva was collected at a salvage yard by a technician from Marion County mosquito control on September 1, 1984. A subsequent survey of the salvage yard on September 10 yielded 12 larvae from a flooded auto trunk. The larvae are now commonly found in tires and flooded auto bodies throughout the site. The *Ae. atropalpus* larvae are found often in association with *Culex pipiens* (Linnaeus), *Culex restuans* Theobald, and, occasionally *Aedes triseriatus* (Say). Chironomids are sometimes found in flooded trunks and cars as well, particularly if a flocculent sediment is present. Containers in which *Ae. atropalpus* larvae were found often contain such sediment or a sparse algal growth.

Marion County, Indianapolis, Indiana:

On September 16, 1987, three dead larvae were collected from a truck tire behind a retreading shop. The larvae were found during a post-treatment survey of the site for *Ae. albopictus*. Though *Ae. albopictus* remains at this site, no *Ae. atropalpus* larvae or adults have been found since. This retreading shop is approximately eight miles from the other *Ae. atropalpus* site.

Knox County, Wheatland, Indiana:

One fourth-instar larva and three pupae (allowed to emerge as adults in the laboratory) were collected from a single truck tire on September 17, 1986. This tire was one of several hundred located behind a retreading and repair shop. Many of these tires contained clear water with algae or a silty sediment.

Morgan County, Martinsville, Indiana:

Six *Ae. atropalpus* larvae were collected on July 1, 1987, from a pile of about 10,000 scrap tires dumped on a bulldozed hilltop. These tires had been in place several months; since they contained no leaf litter they were probably dumped the previous winter. The tires had not yet been extensively colonized by mosquitoes of any species. The few larvae that were collected were found in association with large numbers of small "tadpoles." Water in the tires was generally clear with silty sediment or algal growth on the bottom. No adults were collected at this time. Another inspection on September 30, 1987, yielded no *Ae. atropalpus* larvae, but landing-biting collections revealed *Ae. atropalpus* to be the predominant biter in the vicinity of the tire pile. In one such collection, 15 *Ae. atropalpus* and 5 *Ae. triseriatus* were observed biting in a 20-minute period.

Kosciusko County, Atwood, Indiana:

Adults and larvae were collected from tires on the perimeter of an old gravel pit filled with approximately six million tires on August 25, 1987. Other mosquito larvae collected included *Culex pipiens*, *Cx. restuans*, *Cx. territans*, Walker, *Anopheles punctipennis* (Say), and *Ae. triseriatus*.

Lake County, Lake Station, Indiana:

On September 25, 1987, five female *Ae. atropalpus* were collected at a retread outlet specializing in large-implement tires. This site is in an urban area in a fenced lot with little vegetation. Other mosquitoes collected included *Cx. pipiens*, *Cx. territans*, and *An. punctipennis*.

Warrick County, Boonville, Indiana:

A resting collection of 10 female and 14 male *Ae. atropalpus* was made from large-implement tires outside of a tire dealership on September 25, 1987. Two larvae and one pupa were also collected. A single biting female was captured as well.

Dubois County, Jasper, Indiana:

An adult female *Ae. atropalpus* was collected on September 28, 1987 at a tire dealership where farm-implement tires were vertically stacked and stored outdoors. One adult male was also collected from flowering plants adjacent to the tires.

Harrison County, Corydon, Indiana:

One adult female *Ae. atropalpus* was collected on September 30, 1987 in a wooded area west of a two-acre pile of scrap tires. Eighty-five *Ae. triseriatus* and one *Aedes vexans* (Meigen) were also collected. Resting collections of adult mosquitoes from inside the tires yielded eight female *Ae. atropalpus*, two male *Ae. atropalpus*, and two *Ae. triseriatus*.

Vanderburgh County, Evansville, Indiana:

A resting collection from truck and implement tires at a tire dealership yielded four female and seven female *Ae. atropalpus* on October 2, 1987.

Acknowledgment

The authors wish to thank Dr. Michael J. Sinsko (ISBH) for reviewing this manuscript, Barbara Blue (MCHD) for reporting the collection of the initial Marion County specimen, and Dr. George B. Craig, for urging publication of these data.

Literature Cited

- Restifo, R.A. and G.C. Lanzaro. 1980. The Occurrence of *Aedes atropalpus* (Coquillett) Breeding in Tires in Indiana. Mosq. News 40.
- Siverly, R.E. 1972. Mosquitoes of Indiana. Indiana State Board of Health, Indianapolis.

