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**AEDES ATROPALPUS BREEDING IN
ARTIFICIAL CONTAINERS IN SUFFOLK
COUNTY, NEW YORK**

DENNIS J. WHITE AND CHERYLANN P.
WHITE

New York State Department of Health, State University of New York at Stony Brook, South Campus, Stony Brook, New York 11794.

The recent listing of the Suffolk County, New York mosquito species (Guirgis and Sanzone 1978) did not include *Aedes atropalpus* (Coquillett). This mosquito is primarily found breeding along rocky streams in water filled depressions in rocks (Hedeen 1953, Barnes et al. 1950). O'Meara and Craig (1970) provided the characteristics of four subspecies of *Ae. atropalpus*, only one of which, *Ae. atropalpus atropalpus*, has been reported from the east coast of the United States. This subspecies, unlike *Ae. a. epactius* found in the southwestern states, is not commonly found breeding in artificial containers. The recent report of Covell and Brownell (1979) mentioned location of *Aedes atropalpus* breeding in discarded tires.

While conducting an entomological survey of the Plum Island Animal Disease Center, a USDA research laboratory located 2.0 km

from the eastern tip of Long Island's north fork, we located two sources of *Ae. atropalpus*, both artificial containers. Abandoned tires, used to secure a rubberized tarpaulin liner around a 0.6 ha sewage treatment settling pond, supported larval development. *Ae. atropalpus* larvae were also found breeding in many aluminum 16 x 20 x 28 cm rectangular animal cages found at a dumpsite located 0.4 km from the sewage settling pond.

Since *Ae. atropalpus* has been shown to be a vector of *Plasmodium gallinaceum* (Trembley 1946) and capable of transmitting eastern equine encephalitis (Carpenter et al. 1946), the Plum Island staff was notified of the mosquito's presence. Upon notification of the potential of the disposed material to support *Ae. atropalpus*, among other species, the Plum Island staff collected and buried all tires surrounding the settling pond. The aluminum cages were also temporarily turned over to prevent water from collecting in them.

Comparison of the collected specimens to the subspecies taxonomic differentiation as described by O'Meara and Craig (1970) led to the subspecies identification of larvae and reared adults as *Ae. a. atropalpus*.

While adult specimen characteristics were identical to those listed by O'Meara and Craig, larval pecten teeth were not as numerous as those listed for *Ae. a. atropalpus*. However, there were well in excess of 40 comb scales on collected larval specimens. This may indicate some integrated gene expression from *Ae. a. epactius*, which has been frequently reported breeding in artificial containers (O'Meara and Craig 1970). The fact that no *Ae. atropalpus* adults have been obtained from NJ light traps, portable CDC light traps, landing or biting samples or sweep net collections, may indicate that this population is characteristic of the autogenous *Ae. a. atropalpus* (O'Meara and Craig 1970). If, in fact, some gene expression of *Ae. a. epactius* does exist in the specimens, the female mosquito may require a blood meal for egg production. Should this occur, public health agencies should be aware of the vector potential of *Ae. atropalpus* populations along the east coast of the United States.

The same containers supported development of immature *Ae. triseriatus* (Say), *Culex restuans* Theobald, *Cx. salinarius* Coquillett and *Cx. pipiens* Linnaeus.

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OCCURRENCE OF *TOXORHYNCHITES RUTILUS SEPTENTRIONALIS* IN TIRES IN OHIO

SCOTT W. GORDON AND ELLEN D. PETERSON

Vector-borne Disease Unit, Ohio Department of Health, P.O. Box 2568, Columbus, Ohio 43216

The mosquito genus *Toxorhynchites* is represented in the eastern United States by a single species *Toxorhynchites rutilus*, which consists of 2 subspecies *rutilus* (Coquillett) and *septentrionalis* (Dyar and Knab). The subspecies are differentiated on the basis of morphological characters of the adult male and by geographic distribution (Jenkins 1949). *Tx. r. rutilus* is reported as being restricted to Florida, southern

and coastal Georgia, and South Carolina (Jenkins and Carpenter 1946). Recent efforts to establish *Tx. r. rutilus* in Louisiana (Carmichael 1978) as a biological control agent, may serve to extend the range of this subspecies. *Tx. r. septentrionalis* is more widely distributed throughout the eastern U.S., ranging northward to New England (Main et al. 1976) and Ontario, Canada (Parker 1977), and westward to Kansas, Oklahoma, and Texas (Focks et al. 1977). Intergrades of the two subspecies are known to occur in northern Florida (Jenkins 1949).

The first reported occurrence of *Tx. r. septentrionalis* in Ohio was by Burgess (1906) from Hamilton and Scioto Counties. Other published records include Franklin and Hamilton Counties (Jenkins and Carpenter 1946) and Cuyahoga County (Masters 1949). In an unpublished thesis, Mead (1949) listed collection records from Hocking, Licking, and Ross Counties. The most recent report of the subspecies in Ohio is that of Williams et al. (1961) from a study area in Hocking County. Despite frequent container sampling, *Tx. r. septentrionalis* has not been collected by field staff of the Vector-borne Disease Unit (VBDU), Ohio Department of Health, in the years 1965 to 1978 (M. A. Parsons, VBDU, personal communication). An additional county distribution record from Darke County is presented in this report, bringing the currently known distribution of *Tx. r. septentrionalis* in Ohio to 8 of the 88 counties (Figure 1). Although this subspecies probably occurs throughout Ohio, no additional records were encountered.

During September and October of 1979, immature stages of *Tx. r. septentrionalis* were collected from discarded tires in 2 Ohio counties. All specimens collected at the 2 sites were returned to the VBDU Laboratory where they were successfully reared to the adult stage. Identification to subspecies was based on tarsal scale patterns of the adult males. A laboratory colony was established according to the method of Slaff et al. (1975).

None of the previously mentioned records indicate the use of tires by *Tx. r. septentrionalis* as a breeding habitat. This phenomenon, however, has been reported in New Jersey by Lake (1953), Hemmerlein and Crans (1968), and Slaff et al. (1975). In Florida, Basham et al. (1947) collected *Tx. r. rutilus* from a number of artificial containers, including tires. On September 18, 1979, two 4th instar *Tx. r. septentrionalis* larvae were collected in Greenville, Darke County, at a tire sales and repair company specializing in "giant" tires for heavy con-