SCIENTIFIC NOTE

THREE NEW MOSQUITO RECORDS FOR NORTH CAROLINA

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ABSTRACT. Recently enhanced mosquito surveillance programs in northeastern North Carolina have resulted in the collection of Ochlerotatus aurifer, Oc. cantator, and Oc. grossbecki. These specimens represent the 1st confirmed North Carolina records of these species. Collection-site and species distribution data are included.

KEY WORDS Ochlerotatus aurifer, Ochlerotatus cantator, Ochlerotatus grossbecki, new records, North Carolina

The 2001 initial Centers for Disease Control and Prevention (CDC) West Nile grant to North Carolina provided a welcome stimulus for training and support for mosquito surveillance and control programs. Accordingly, since these events there has been an increase at county and local levels in surveillance-driven mosquito control programs in North Carolina. This is particularly true for Camden, Chowan, Currituck, Pasquotank, and Perquimans counties in extreme northeastern North Carolina, which are designated as the Albemarle Regional Health Services (ARHS). This area is bounded on the north by Virginia, on the south by the Albemarle Sound, on the west by the Chowan River, and on the east by the Currituck Sound and part of the North Carolina outer banks.

The northern portion of the ARHS was part of an area surveyed for mosquitoes in 1998 by Harrison et al. (2002). Major collection and pooling efforts by W.H.R., B.A.H., and J.E.A. were conducted in this area after a human eastern equine encephalomyelitis (EEE) case in 2000. In 2002, the ARHS established season-long mosquito surveillance to determine spatial and temporal distributions of species for directing mosquito management and control efforts. Most of the specimens reported here resulted from this surveillance program.

Further west, in northeastern North Carolina, a mosquito control program in the city of Rocky Mount, Edgecombe County, reestablished adult and larval surveillance programs since Hurricane Floyd (September 1999). Also in Edgecombe County, the town of Princeville lacks a mosquito control program, but has received periodic mosquito surveil-

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Female *Ochlerotatus cantator* (Coq.) were collected in 3 traps at 2 widely separated locations in Perquimans County. These are clearly the southernmost confirmed records for this species in the United States. The 1st specimen was collected April 30, 2002, in a trap baited with CO$_2$, set in a sheep pasture surrounded by young pine trees. Three additional specimens were collected on May 14 ($n = 1$) and May 27 ($n = 2$) in an unbaited (no CO$_2$) light trap set adjacent to a chicken coop, about 100 m from the sheep pasture. This site is 5 mi southeast of Hertford, NC, near a small cypress—gum swamp adjacent to Yeopim Creek. A 5th female was collected May 30, 2002, at a cemetery located on Godfrey Lane in Woodville, adjacent to the Little River cypress—gum swamp and just across the river from Pasquotank County. This last site is about 14 km northeast of the other 2 sites. In 2003, additional specimens of *Oc. cantator* were collected by W.H.R. at the sheep pasture and chicken coop trap sites at a rate of approximately 1 per week during April and May. These collection sites are in the southern half of Perquimans County and about 50 km from the Virginia border. The nearest collection site for *Oc. cantator* in Virginia is in Chesapeake (based on 2 specimens provided in 2002 by Jason Williams, Chesapeake Mosquito Control) and about 60—70 km from the North Carolina sites. The Virginia and North Carolina sites are separated by countless interspersed freshwater swamp habitats, but since 1998 a number of light trap collections made between these 2 areas failed to collect *Oc. cantator*. Larvae of *Oc. cantator* typically are found in coastal marshes, including both freshwater and salt water, but less brackish water seems to be preferred (Carpenter and LaCasse 1955). To date, we have been unable to locate the larval habitat for the North Carolina population of *Oc. cantator*. *Ochlerotatus cantator* can be very common from May and summer months along the Atlantic coast in the northeastern USA and southeastern Canada (Carpenter and LaCasse 1955, Wood et al. 1979). One explanation for the occurrence of *Oc. cantator* in Perquimans County may be the increased salinity of Currituck and Albemarle sounds and the associated rivers during the drought years of 2000—02. A site monitored by the North Carolina Division of Marine Fisheries showed increased salinity at the mouth of Yeopim Creek during this period (Sara Winslow, North Carolina Division of Marine Fisheries, personal communication).

*Ochlerotatus grossbecki* (Dyar and Knab) was reported from states adjacent to North Carolina (Carpenter and LaCasse 1955, King et al. 1960), and in North Carolina (Darsie and Ward 1981, Slaff and Apperson 1989), but the last 2 publications had no specimens upon which to base their records. Also, there are no previous collection records of this species from North Carolina and no specimens were found that would confirm its presence in this state (Harrison et al. 1998). Accordingly, the 3 specimens reported here represent the 1st confirmed specimens of *Oc. grossbecki* from North Carolina. The 1st female was collected in a light trap set in downtown Princeville, Edgecombe County, on May 24, 2001, by B.M.P. The trap was set in mixed hardwood forest adjacent to 2004 Greenwood Boulevard. This specimen was brought to the attention of B.A.H. in early 2003. A 2nd female was collected in a light trap set by W.H.R. off Paradise Road, about 2 km north of Edenton, Chowan County, on April 22, 2003. The 3rd female was collected in a light trap set by R.F.C. at 1112 Johnson Street, Rocky Mount, Edgecombe County, on May 24, 2003. Likely reasons that *Oc. grossbecki* has not been collected previously in North Carolina are because it is univoltine, and the adults emerge in early spring before most mosquito surveillance programs begin.

Jerry Parks, Health Director, ARHS, and George Jones, Supervisor, Community Code Enforcement, City of Rocky Mount, are gratefully acknowledged for support in initiating surveillance-driven integrated pest management structured programs. Nolan H. Newton, Chief, Public Health Pest Management Section, Raleigh, is thanked for his continued support of basic level mosquito studies. We also acknowledge CDC West Nile grant U50/CCU416835 for providing funds and impetus for surveillance and identification training courses. The North Carolina State University, College of Agriculture and Life Sciences, Agricultural Research Service also provided support.

**REFERENCES CITED**


