

SCIENTIFIC NOTE

COLLECTION OF *CULEX TARSALIS* IN SOUTHEASTERN VIRGINIA

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ABSTRACT. In 2003, *Culex tarsalis* was collected in southeastern Virginia. There is only 1 previous record for this species in Virginia. Also included are a habitat description for the site of collection, diagnostic characters for the species, and a short discussion.

KEY WORDS *Culex tarsalis*, Virginia, rare species

This article describes the collection of *Culex tarsalis* (Coquillett) in southeastern Virginia. The single female was collected in a carbon dioxide-baited modified Centers for Disease Control trap during the night of November 5–6, 2003. The trap was located at 1944 South Military Highway in Chesapeake, VA (Fig. 1), in a low, marshy wooded strip near a larger wooded area, and also near a large marshy field with head-high vegetation. A fence company and a trailer court are very near the site and across the highway is a large shopping center. The authors' initial identification was confirmed by Bruce Harrison. Dyar (1928) published the only other record of this species in Virginia, based on a single specimen collected in Quantico, VA, on October 18, 1926 (B. A. Harrison, personal communication). Dyar's (1928) record was overlooked by Darsie and Ward (1981) and Harrison et al. (2002).

Although *Culex tarsalis* is brown and approximately the same size as most of the species in the subgenus *Culex*, it has a number of unique characters that make it very easy to identify and to distinguish from other species, such as *Cx. restuans*. *Culex restuans* Theobald has a partial band of pale scales on the ventral side of the proboscis, and may have pale bands on the hind tarsi. The *Cx. tarsalis* that was trapped has a complete band around the proboscis, has wide overlapping bands on the joints of hind tarsi, and has some banding on the middle and front legs. Also, the ventral side of the abdomen is pale-scaled with V-shaped marking of dark scales on each sternite, with the base of the V at the median anterior margin. Some good references for the taxonomic descriptions are Bohart and Washino (1978), Carpenter and LaCasse (1955), Darsie and Ward (1981), Meyer and Durso (1998), and Sloff and Apperson (1989).

This species has a very wide distribution in North America, extending from Canada to Mexico (Carpenter and LaCasse 1955). In the USA, *Cx. tarsalis* is primarily a midwestern and western species. East of the Mississippi River, it is less common and

rare or absent in some states along the east coast. Darsie and Ward (1981) identified Delaware, Maryland, District of Columbia, North Carolina, Virginia (overlooking the record of Dyar [1928]), and West Virginia in the Mid-Atlantic Region as not having records for *Cx. tarsalis*. Lesser et al. (1977) reported the collection of a single female in New Jersey in 1975, and considered the specimen an accidental introduction by one of the many tourists visiting the area. However, Crans et al. (1979) collected 9 additional specimens in 1977, and at least 1 female was 75 km from the collection site in 1975. These last authors reported that *Cx. tarsalis* had established a small breeding population in New Jersey. Occasional specimens of *Cx. tarsalis* are still collected to the present in this area of New Jersey (W. J. Crans, personal communication).

Culex tarsalis is the primary vector of western equine encephalitis and St. Louis encephalitis in many parts of the western states, and also has been found infected with several other viruses that can cause human illness (Bohart and Washino 1978).

In conclusion, the collections of *Cx. tarsalis* in Chesapeake (2003) and in Quantico (1926) are rare finds. Only the future will determine if the species will remain an occasional rare collection in Virginia.

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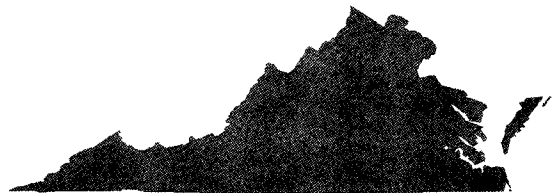


Fig. 1. Collection site of *Culex tarsalis* in the state of Virginia, with the city of Chesapeake depicted as a dark area in the southeastern part of the state.

quito surveillance and arbovirus studies. We also thank Bruce A. Harrison, North Carolina Department of Environment and Natural Resources, for confirming the identification of the specimen, his encouragement to publish this information, and for reviewing the manuscript.

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