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SCIENTIFIC NOTE

FIRST OCCURRENCE OF *OCHLEROTATUS JAPONICUS* IN THE STATE OF WASHINGTON

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ABSTRACT. This is a report on the 1st occurrence of *Ochlerotatus japonicus* in the state of Washington. In August through November 2001, immature stages were found near the King County communities of Carnation (2 sites), Black Diamond, Kent, and Issaquah and were reared to the adult stage for identification and preservation.

KEY WORDS *Ochlerotatus japonicus,* Washington, King County, mosquito

Adults of *Ochlerotatus japonicus japonicus* (Theobald) were found in light traps in New York and New Jersey in August and September 1998, marking the 1st established finding of this species in North America (Crans 1999, Peyton et al. 1999, Romanowski et al. 1999, Scott et al. 1999). Munstermann and Andreadis (1999) and Andreadis et al. (2001) reported on the distribution of this species in Connecticut, and Falco et al. (2002) and Oliver et al. (2003) further reported on the occurrence of *Oc. japonicus* in New York. Turell et al. (2001) showed that *Oc. japonicus* was an efficient laboratory vector of West Nile virus (WN) and discussed the vector potential of this species for WN.

Historically, the area of Washington State that is west of the Cascade Mountains is unique in that mosquito-borne disease has not been a documented public health concern. Therefore, very little mosquito surveillance or control has been conducted in that area for at least several decades. However, with the introduction of WN into New York and its subsequent spread westward, the Washington Department of Health (DOH), with support from the Centers for Disease Control (CDC), initiated a WN virus program and encouraged county health departments to initiate mosquito surveillance programs. In response, Public Health–Seattle and King County's (PHSKC) Environmental Health Division began mosquito surveillance activities with the primary objective of collecting baseline mosquito data for King County, Washington. On August 31, 2001, Monica Roppo and Leo Melendez, inspectors from the Environmental Health Division, responded to a rodent and indoor air-quality complaint at a single-family dwelling near Carnation, WA. In the course of inspecting the property, Roppo discovered an apparently discarded water-filled fish tank in the yard that contained mosquito larvae. Six larvae were collected and submitted to the State Health Department. Jo Marie Brauner at the Washington DOH reared the larvae to the adult stage, and Francis Maloney, U.S. Army Center for Health Promotion and Preventive Medicine–West, identified the mosquitoes as *Oc. japonicus japonicus.* A sample of the adults was submitted to the CDC for confirmation and later was confirmed by Harry Savage. Taxonomic keys for identifying *Oc. japonicus* may be found in Darsie (2002) and Tanaka et al. (1979).

In October, Environmental Health Division personnel collected more samples from the original site and 4 additional sites in eastern King County (Table 1). Sites were located an average of 10 km apart, with a total distance of 40 km between the northernmost and southernmost sites.

The confirmed findings of *Oc. japonicus* at 5 locations in eastern King County indicate that *Oc. japonicus* is locally established. Whether this introduction was the result of moving contaminated products (old tires and household goods) from the eastern United States to Washington or was a by-product of the active international trade that exists along the Washington Pacific Coast is unclear. Genetic studies to determine the country of origin have been completed on samples of *Oc. japonicus* from the northeastern USA (Fonseca et al. 2001), and specimens from the Washington sites were submitted to the Walter Reed Biosystematics Unit, Walter Reed Army Institute of Research, Silver Spring, MD, for a continuation of that study. Further *Oc. japonicus* surveillance in Washington will be required to determine its distribution, spread, ecological impact, and role as a potential vector of WN.

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Table 1. Positive collection sites for *Ochlerotatus japonicus* in King County, Washington, August–November 2001.

Date	Location[1]	Container type
Aug. 31	Carnation (site 1)	Aquarium, rectanglar
Oct. 12	Carnation (site 1)	Automobile tires and ornamental fountain (nonfunctional)
Oct. 19	Kent (site 2)	Porcelain bathtub used as horse watering trough
Oct. 19	Black Diamond (site 3)	Automobile tires
Oct. 23	Carnation (site 4)	Automobile tires
Nov. 2	Issaquah (site 5)	Automobile tires

[1] Site 1 was at a residence 4.5 km N of Carnation along Harris Creek; site 2 was on a farm 3.8 km ENE of Kent near the city limits; site 3 was at a business 1.3 km NNW of Black Diamond; site 4 was at a residence 0.3 km SW of site 1; and site 5 was along a road 5 km ENE of Issaquah, N of Issaquah Creek. All distances are from the city center.

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