

in the tarpaulin test. Figure 1 shows the uniformity of distribution in the 20 m² area. Uniformity of distribution was also evident in the small scale area studies at both the high and low dispersal rates. Uniformity of application was quantitatively verified by the presence of relatively small variability in the counts made at the high and low treatment rates.

The following operating conditions for adequate distribution were considered optimal:

Vehicle Speed: 5-10 mph

Dispersal Swath: 6-12 m

Nozzle Angle: 30-45°

The Buffalo Turbine Model CS Turbulent Air Sprayer-Duster is currently available and is utilized Army-wide in installation pest management/vector control programs. Based on the findings in this evaluation and the availability of this equipment through standard procurement channels, this dispersal unit is the equipment of choice for large-scale ground application of the pelletized formulation of Dursban 10 CR.

The utilization of this equipment is by its very nature self-limiting. Weight and size restrict its use to areas which are relatively accessible. For limited and/or remote area control it would be advantageous to have a motorized backpack, a manual dispersal unit or an aerial dispersal unit capable of applying pelletized pesticide formulations. Efforts are presently underway at the US Army Medical Bioengineering R&D Laboratory to identify or develop suitable backpack and aerial dispersal equipment for this purpose.

INITIAL RECORD OF *Aedes tormentor* IN KENTUCKY¹

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Although *Aedes atlanticus* Dyar and Knab has been confirmed as occurring in Kentucky by Covell (1968) (a larva collected in 1961, identified by Dr. P. J. Christian, University of Louisville; not an adult as indicated in Table 1 of this reference (Covell, D. V., Jr., 1977, Pers. Comm.)), its close relative and frequent associate, *Ae. tormentor* Dyar and Knab had not been recorded from Kentucky prior to 1976. Collection records (provided courtesy of CPT H. A. Harlan, USAEHA, Regional Division South, Fort McPherson, GA 30330) from Fort Campbell, KY, some 260 km south of Fort Knox, showed 41 adult "*Aedes atlanticus-tormentor*" collected in light traps from 1960-1976. Additional records of *atlanticus-tormentor* from Fort Campbell included an adult biting in 1958, and a larva collected in 1974. It seems rather odd that the latter was not identified to species, as *atlanticus* and *tormentor* are readily distinguished in this stage; whereas the adult females are virtually identical.

¹ The opinions or assertions contained in this article are the private views of the author, and are not to be construed as official or as reflecting the views of the Department of the Army or the Department of Defense.

During the course of an expanded mosquito surveillance program at Fort Knox, a few larvae identified as *Ae. tormentor* were collected from shallow, leafy, shaded, temporary woodland pools near the Van Voothis housing area at Fort Knox. The initial collection (Fort Knox No. 60525) was made 4 June 1976, in a small (ca. 2m wide, 10 cm deep), shaded, leafy woodland pool. The 2nd collection (Fort Knox No. 60547) was made 7 June 1976, from a similar temporary pool about 300 m NNW of the first pool. Associated species collected were *Ae. vexans* (Meigen) and *Psorophora columbae* (Dyar and Knab). Other collections made at these sites from 24 March through 2 July 1976, were negative for *Ae. tormentor*. Numerous collections from other shaded temporary pools made from March through November were likewise negative for *tormentor*, although a single *Ae. atlanticus* larva was collected from a large (ca. 25 m × 10 m × 35 cm) shaded temporary pool in early July. This appears to be the first record of *Aedes atlanticus* from Fort Knox.

Two larvae from collection No. 60547 were killed and preserved in ethanol, the remainder individually reared to adults. The preserved larvae were sent to the USNM, mounted in balsam and confirmed as *Ae. (Ochlerotatus) tormentor* Dyar and Knab. One specimen was deposited at the USNM.

Ae. tormentor has been previously recorded from 3 states bordering Kentucky, namely, Illinois (Carpenter 1968), Missouri (Carpenter and LaCasse 1955) and Ohio (Ibid.). It is apparently widely distributed in the southeastern United States, but usually occurs in fewer numbers than *Ae. atlanticus* (Carpenter and LaCasse 1955; King et al 1960). The larvae have been reported from temporary woodland pools, usually associated with *Ae. atlanticus* and *Ae. informatus* (Ibid.). Little is apparently known of its relationships with man, but as *Ae. atlanticus* has been implicated in vectoring some California group arboviruses (Taylor et al 1971), it should not be discounted as unimportant.

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