

by eight Spraying Systems Company nozzles, using flat atomizing 15°, #150067 tips.

The nozzles are supplied with insecticide spray by a Meyers Model 5302 high pressure pump which operates at pressures between 150 to 200 pounds. Approximately two (2) gallons of spray material are discharged into the air stream per minute.

The blower housing is moved by a 6-volt 1954 Pontiac electric window motor, fastened to the bottom bracing of the blower mounting frame. A 2-inch sprocket on the electric window motor is connected by #40 chain to a 10-inch sprocket mounted on the side of the blower housing. Two push button switches located inside the jeep on the dashboard move the blower up and down. Credit is given to the Sonoma County Mosquito Abatement District for the idea of using a car window motor for changing blower directions.

Flow of insecticide to the blower nozzles is controlled from inside the cab of the jeep by attaching a small cable to a Food Machinery Corporation 3/4" ratchet valve #118-2527. One pull of the cable turns the valve on and the following pull shuts it off. The blower and the insecticide pump are driven by a Model AENL 0.2 HP Wisconsin air-cooled motor. A 2-inch pulley on the engine driveshaft drives a 16-inch pulley on the insecticide pump shaft. An 8.2-inch pulley on the engine drives a 6.2-inch pulley on the blower shaft. Type "B" belts are used. The

engine is started and stopped from inside the cab by push button switches. Choking of the engine and regulation of the engine speed is done from within the cab of the jeep. Once the operator fills his spray tank he need not leave the jeep cab until it is empty. A 15-gallon insecticide concentrate tank, with visible gauge, is mounted above the left fender of the jeep. Turning a valve lets the desired amount of insecticide concentrate flow into the spray tank where it is mixed with water. Valves, hose and pipe arrangements permit filling the spray tank with water from field sources.

For larviciding purposes 4 nozzles may be capped off and larger tips used in the remaining nozzles. Valves and piping make it possible to use a hand spray gun instead of the mist blower when desired. By removing a few bolts the blower and tank can be removed from the jeep as a unit. Agitation is supplied on one model by use of a six (6) volt electric window motor attached to a vertical drive shaft, which turns a propeller inside the insecticide tank. The motor does not have sufficient power for constant use; however, our stable solutions need little agitation.

There is practically no spray drop-out near the jeep because of the high pump pressure and high velocity of the airstream. Spray particle sizes are very small. This makes the blower a good adulticiding tool for *Aedes sierrensis*, which is our big problem.

THE OCCURRENCE OF *Orthopodomyia alba* BAKER  
IN OKLAHOMA (DIPTERA: CULICIDAE) \*

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According to Jenkins and Carpenter (1946) *Orthopodomyia alba* Baker is considered to be a rare, restricted, local tree hole mosquito which has aroused interest each time that it has been collected. *O. alba* is considered to be closely related to *Orthopodomyia signifera* which selects the same larval habitat. The adults of the two species are difficult to distinguish.

Larval collections of *O. alba* have previously been reported from the states of Alabama (Shields and Miles, 1937); Ken-

tucky (Kitzmilller, 1945); Louisiana (Harden, 1945); Mississippi (Middlekauff and Carpenter, 1944); Missouri (Gurney, 1943); New Jersey (Lake, 1953); New York (Baker, 1936); North Carolina (Schoof and Ashton, 1944); Texas (Breland, 1947) and Virginia (Dorsey, 1944). Jenkins and Carpenter (1946) cite an unpublished report of the occurrence of *O. alba* in Illinois by Ross.

Seventy-nine third instar larvae and sixty-two fourth instar larvae of *O. alba* were collected from a tree hole in an American Elm tree (*Ulmus americana*), in association with twenty, fourth instar larvae of *O. signifera*. This single collection was made in the Mount Scott Camp-

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ground of the Wichita Mountains Wildlife Refuge (Comanche County, Oklahoma) on February 26, 1960. The water temperature, at the time of the collection was 34° F. The tree hole contained turbid, dark brown water. In the laboratory the larvae were reared to adults, at a temperature of 12° C., in isolation vials containing tree hole water from which the larvae had been collected. Larval and pupal exuviae were collected and preserved in 80 percent alcohol in small vials.

The author's identification of the species was verified by Dr. Cluff E. Hopla of the Department of Zoological Sciences of the University of Oklahoma, to whom I am deeply grateful.

Relatively few references have been presented in the literature pertaining to Oklahoma mosquitoes. The most complete study of the mosquitoes of Oklahoma was made by Rozeboom (1942) who recorded forty species of mosquitoes in the State. Roth (1945) reported the occurrence of *Psorophora longipalpis* in Oklahoma. Griffith (1952) recorded eleven additional species, bringing the total known species for the State to fifty-two. The collection of *O. alba* in Oklahoma brings the total known species of mosquitoes for the State to fifty-three.

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#### OCCURRENCE OF *Orthopodomyia californica* IN ARIZONA

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Mosquito larvae were collected from tree holes in Garden Canyon near Fort Huachuca, Arizona on 1 September 1960 and 21 October 1960 by

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the junior author. The specimens were examined by the senior author and determined to be *Orthopodomyia californica*. It is believed that this species has not been previously reported from Arizona, and therefore it becomes a new state record. It has been known only in California according to Stanley J. Carpenter.