MOSQUITOES OF THE AMERICAN VIRGIN ISLANDS

MILTON B. FLEMINGS [1] AND ROBERT D. WALSH [2]
Communicable Disease Center, Public Health Service, U. S. Department of Health, Education, and Welfare, Atlanta, Georgia

In the Virgin Islands, where the study reported here was made, dengue fever is a current threat and yellow fever is a continuing potential threat. Maintaining a constant awareness of the densities of mosquitoes and of the species represented in an area, especially an area that is tourist oriented, is the most important goal in a mosquito surveillance program. Even when there is no threat of a disease outbreak, this knowledge provides an index of the potential annoyance factor, which has both economic and health implications.

METHODS AND PROCEDURES. The mosquito population in the American Virgin Islands was sampled for three months, June through August 1965, by the authors while working as members of the Aedes aegypti Eradication Program. Excellent cooperation from local health department officials made it possible to work on the three islands of St. Thomas, St. Croix, and St. John, which differ distinctly in topography and vegetation. Sampling methods included biting, resting station, larval, net sweeping, and light trap col-

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[1] C. W. Post College, Long Island University, Greenvale, N. Y.

[2] Long Island U., Greenvale. After June 2, 1966: Communicable Disease Center, Aedes aegypti Eradication Branch, c/o Virgin Islands Dept. of Health, Charlotte Amalie, St. Thomas, V. I.

lections. For the latter, Vapona [3] resin strips (2,2 dichlorovinyl dimethyl phosphate) were utilized successfully for killing mosquitoes. This preparation has the advantage over normally used killing agents in that it has a low mammalian toxicity, is compact, easy to handle, and is relatively safe from the error of misuse.

[3] Trade names are used for identification purposes only. Their use does not constitute product endorsement by the Public Health Service.

The documentation of species inhabiting the Islands was completed through literature research and personal contact with individual authorities. Contributors are acknowledged in the reference section of this paper. A special acknowledgment goes to Dr. Harry D. Pratt, CDC, Atlanta, Georgia, for his contributions.

RESULTS. Table 1 shows the species collected by the authors by five sampling methods, the percentage of incidence, and local habitats of larvae and/or adults.

The following species were reported by

TABLE 1.—Mosquitoes collected by the authors in the Virgin Islands, with collection of habitat data.

Species	Primary collection method	Percent of total collection via primary method	Other collection methods	Larval or adult habitat
Aedes aegypti (L.)	Larval station	80%	Biting and Resting station	Drinking and washing water barrels, other artificial water containers around human dwellings, bromeliaceous plants.
Culex bahamensis D. & K.	Light traps	40%	Larval	Salt marsh drains, red mangrove swamps, temporary rain-filled pools.
Aedes taeniorhynchus (Wied.)	Light traps	30%	Net sweeping and biting	Swamps and other low-lying areas.
Culex quinquefasciatus Say	Light traps	10%	Larval	Same as *A. aegypti*.
Culex nigripalpus Theob.	Larval	10%	Biting, Light traps	Auto tires, foxtail, wild cane swamps, water storage reservoirs, plant ponds and ditches.
Culex habilitator D. & K.	Larval	5%		Red mangrove swamps.
Aedes mediovittatus (Coq.)	Light traps	10%	Larval, Resting and Biting station	Larval habitats same as *A. aegypti*. Biting catches taken at high altitudes.
Culex erraticus (D. & K.)	Light traps	2%	Larval	Shallow margins of ponds and marshes.
Deinocerites magnus (Theob.)	Light traps	5%	Larval	Auto tires and crab holes.
Psorophora johnstonii (Grabham)	Net sweeping	Infreq.	Biting station	Shaded fields of grass vegetation and weedland.
Uranotaenia lowii Theob.	Net	Infreq.	None	Open grassy field.

others (see list of references) as being present or having been present in the Virgin Islands:

Aedes sollicitans (Walker)
Aedes tortillis (Theob.)
Anopheles albimanus Wied.
Anopheles grabhamii Theob.
Mansonia flaveola (Coq.)
Orthopodomyia signifera (Coq.)
Psorophora confinnis (L.-Arr.)
Psorophora pyamaea (Theob.)
Uranotaenia cooki Root
Uranotaenia sapphirina (O.-S.)
Toxorhynchites portoricensis (Röeder)

Twenty-two mosquito species, eleven of which were collected by the authors, are reported from the American Virgin Islands of St. Thomas, St. Croix, and St. John. The most important species based upon their predominance and their potential as disease vectors are: *Aedes aegypti, Culex bahamensis, Aedes taeniorhynchus, Culex quinquefasciatus, Anopheles albimanus,* and *Anopheles grabhamii.*

It was necessary to utilize five collecting methods in order to adequately sample the mosquito population, as some methods were more effective than others. Larval collections were best suited for *Aedes aegypti,* light traps for *Culex bahamensis* and *Aedes taeniorhynchus,* and net sweeping for *Psorophora johnstonii* and *Uranotaenia lowii.*

Breeding habits of some species were dissimilar to those normally encountered in the continental United States. *Aedes aegypti* were commonly found in plants of the family Bromelia, and in rain barrels and other containers used locally for storing drinking and washing water (inside and outside of dwellings), and in one rare instance, in the crotch of a tree, *Acer rubrum. Deinocerites magnus,* which normally breeds exclusively in crab holes, was found in automobile tires.

Differentiation between *Culex bahamensis* and *Culex habilitator* was aided by the observation that head hairs no. 5 of the larvae constantly numbered three in the former and four in the latter.

Since only 11 of 22 species were collected during a 3-month summer period, and rainfall varies during the seasons, it is concluded that year-around surveillance is necessary to further document the mosquito species of the American Virgin Islands.

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