SCIENTIFIC NOTES

Aedes sticticus (MEIGEN) IN THE TWIN CITIES, MINNESOTA AREA

BARTON, W. I.,[1] BODINE, M. M.,[2] AND BAUER, G. I.[3]
Metropolitan Mosquito Control District,
St. Paul, Minnesota 55114

Aedes sticticus in this area is essentially a single brooded spring species whose breeding sites are associated with flood plains of rivers and streams. It is an avid human biter and a strong flier, rivaling *A. vexans* in this regard. During the past several years, the incidence of this species has been rising, particularly in Anoka County, the northernmost of the six counties in the Metropolitan Mosquito Control District.

The following table summarizes the frequency of occurrence of *A. sticticus* larvae and adults expressed as percent of the total mosquitoes collected in Anoka County, Minnesota for the past six years.

	1960	1961	1962	1963	1964	1965
Larval collections	0	0.96	0.93	0.73	1.04	3.62
Daytime bite collections	0.04	7.57	6.75	19.70	27.55	17.37
Evening bite collections	0	5.81	2.28	4.75	30.83	10.54

Comparable figures for *Aedes vexans* for 1965 are 43.49 percent of larval collections, 47.61 percent of daytime bite collections and 62.38 percent of evening bite collections. In three New Jersey type light traps operated in Anoka County in 1965, *A .vexans* accounted for 75.92 percent and *A. sticticus* 0.28 percent of the total females captured. The latter negligible catch compared to the relatively high bite catches indicates that the light trap is a very poor measuring device for assessing *A. sticticus* populations. This confirms our previous observations.

Beginning in 1962, the Director asked the field staff to intensify the search for and treatment of *sticticus* larvae in their breeding sites. The Rum River traverses Anoka County north to south and 115 *sticticus* sites were found in this river valley. Near 14 other streams and creeks, an additional 61 sites were located. During 1965 these sites totaled 1642 acres which were treated when they were found breeding. DDT dust or granules at 0.2 lb. per acre actual gave complete larval control and was used only in sites where there was no direct connection with the rivers, streams, or ditches. Where larvae were found in grassy backwaters and cutoffs of the water courses, a small amount of #2 fuel oil was used to destroy the larvae. Applications were made with fixed wing aircraft, helicopter, and several types of hand-operated equipment, whichever was appropriate for a particular site. Extreme care was taken to avoid contamination of the rivers, streams, and ditches with DDT.

Identifiable *A. sticticus* larvae (3rd instar) were first picked up on April 30, 1965 and up to May 15, 1965, 150 sites were found breeding this species. An additional 26 sites were found breeding between May 15 and July 10, 1965. In 90 sites, *A. sticticus* was found in pure culture and in the remaining 86 sites, admixed with *Aedes abserratus, canadensis, cinereus, dorsalis, excrucians, fitchi, flavescens, riparius, vexans,* and *Culiseta inornata* and *morsitans*. The most common combination was with *A. vexans*. Larval densities ranged from one in 20 dips to 500 per dip, averaging 25 per dip.

Adult *A. sticticus* in Anoka County were very annoying during the early summer of 1965 in spite of intensification of larval control. This was due to a combination of factors, such as possible misses of sites within the control area, inability because of manpower limitations to cover all sites within the county, and relatively long range flight from uncontrolled areas into populated areas. It is planned to utilize fixed wing and helicopter reconnaissance to assist in finding new sites and to intensify soil sampling to determine the presence of *sticticus* eggs. More men will be assigned to this problem at the crucial time in the future.

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[1] Field supervisor.
[2] Anoka County supervisor.
[3] Foreman Anoka County.

INLAND RECORDS FOR SALT MARSH MOSQUITOES IN PENNSYLVANIA

WILLIAM WILLS, AND DEAN STEINHART
Division of Sanitation, Pennsylvania Department of Health

Inland records of salt-marsh mosquitoes in the United States are not unusual. Carpenter (1941) lists *Aedes sollicitans* and *Aedes taeniorhynchus* from Union and Onachita Counties, Arkansas; Carpenter and Middlekauf (1944) gave inland records for *A. sollicitans* and *A. taeniorhynchus*