

New Jersey

Vector Surveillance

NEW JERSEY AGRICULTURAL EXPERIMENT STATION
MOSQUITO RESEARCH AND CONTROL

Vol. 10 No. 2

Period: July 15-Aug 15

INTRODUCTION

Eastern equine encephalitis virus was confirmed from a New Jersey horse during the second week of August. The case was reported from the western portion of **Atlantic County**, relatively close to the area where early season equine cases have occurred in the past. Two possible equine cases had been investigated from that same general area during the middle of July. No brain tissue was available for either of the early cases. Thus, the exact period for initiation of epizootic transmission is not known. Cs. melanura populations have been lower than average for most of the season but have been steadily increasing at some of the sites. No virus has yet been isolated from any of the samples, but the tests are currently about three weeks behind the field data.

INFORMATION ON THE EQUINE CASE

The confirmed case involved a **1 year-old thoroughbred** that was being stabled at a farm near **Buena, NJ**. The area is approximately 12 mi southeast of Williamstown where 5 cases occurred last season and 8 mi west of Franklinville where 3 cases occurred in 1983. The animal was being temporarily boarded at a private horse farm and **had not been vaccinated for EEE**. Preliminary survey of the area by the Atlantic County Mosquito Control Agency revealed Cs. melanura habitat in the vicinity. A large cedar swamp was found within $\frac{1}{2}$ mi of the farm and a red maple swamp was immediately adjacent to the stable. A line of resting boxes placed in the woodland collected Cs. melanura in moderate numbers. CDC light traps placed around the paddock area collected 162 specimens for virus isolation attempts. The species breakdown included: Cx. pipiens (31%), Cx. salinarius (23%), Cq. perturbans (22%), Ps. columbiae (11%) and lesser numbers of Ae. sollicitans, Ae. vexans, An. bradleyi and An. punctipennis. The detection of Ae. sollicitans at this site was surprising since the nearest salt marsh habitat would be at least 25 mi away.

During mid-July, two possible equine cases of EEE were reported from nearby Salem County. One involved an animal from **Woodstown** that was listed as a **suspect** case since blood taken shortly after symptoms showed very low titer to EEE. The other, from **Monroeville**, was listed as **presumptive**, based on a blood titer of 1:320. Neither owner allowed acquisition of the brain for confirmatory tests.

THE CURRENT STATUS OF CS. MELANURA AND EEE VIRUS

Cs. melanura populations were extremely erratic in the early part of the season and then declined to exceptionally low levels at all sites. During the month of July, the resting box collections were yielding very few specimens for virus isolation

KEY

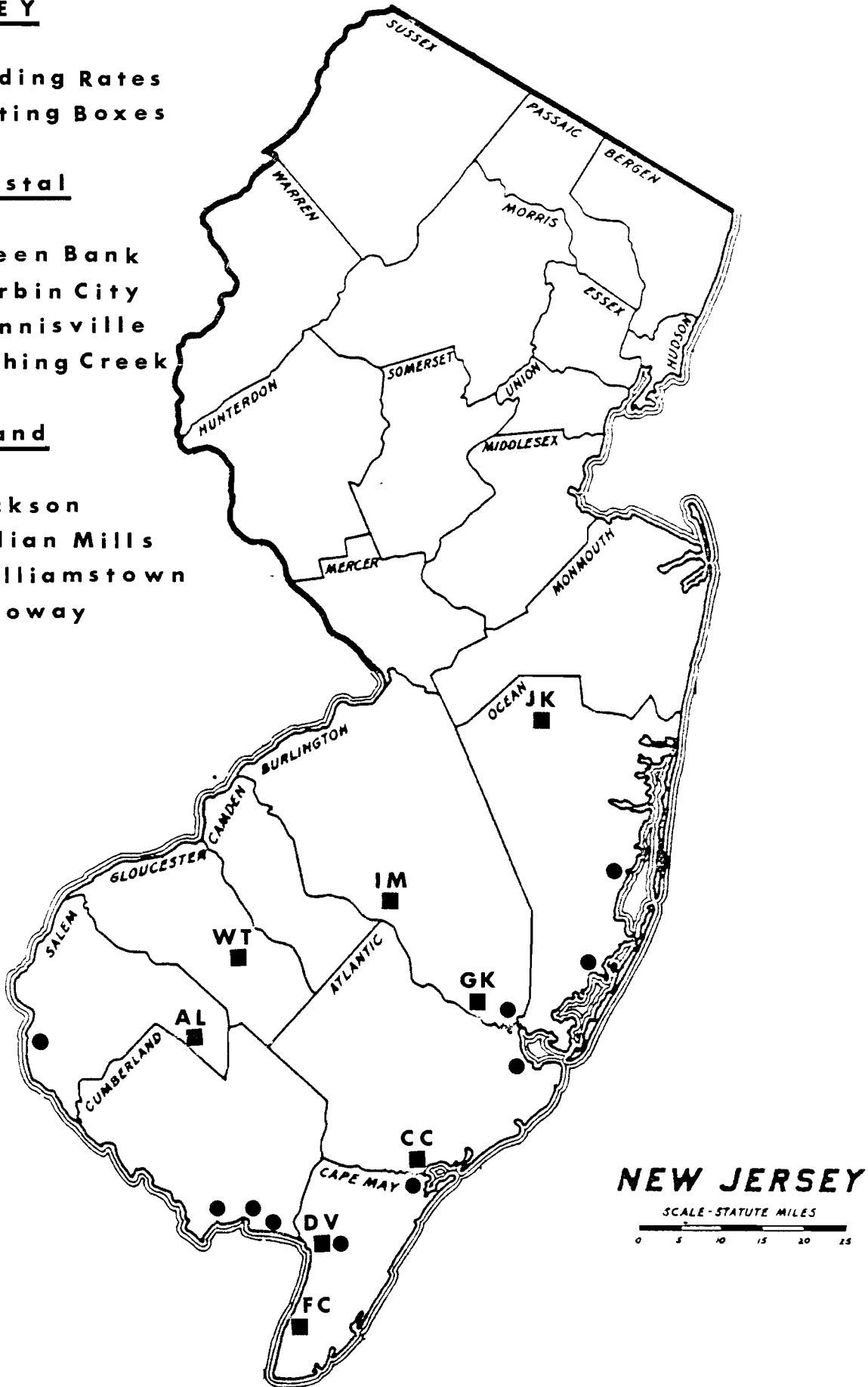
- Landing Rates
- Resting Boxes

Coastal

- GK-Green Bank
- CC-Corbin City
- DV-Dennisville
- FC-Fishing Creek

Inland

- JK-Jackson
- IM-Indian Mills
- WT-Williamstown
- AL-Alloway



attempts. Figure 1 compares the population trends at Green Bank (East Coast) and at Dennisville (West Coast) and shows that the early July populations were well below the averages shown during previous years. Recovery occurred at both of the sites in late July, but the populations are still somewhat below average.

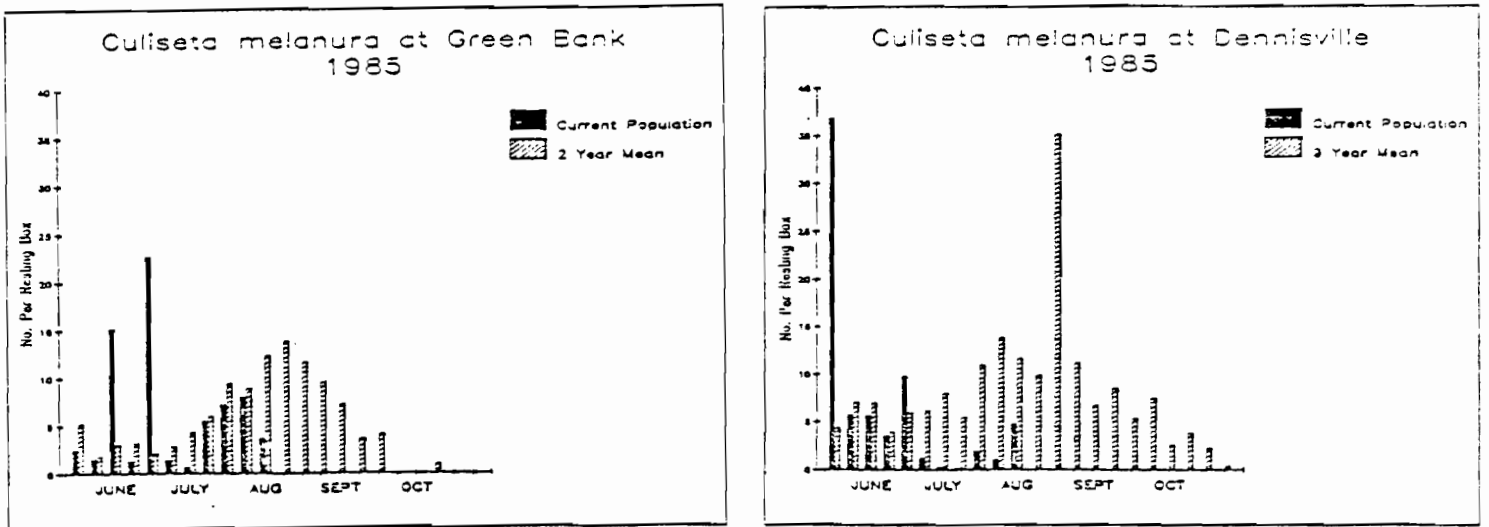


Fig. 1. A Comparison of Cs. melanura Populations at 2 Coastal Sites in New Jersey.

In 1985, the Vector Surveillance Program established inland sites to monitor Cs. melanura in areas where equine cases have occurred in the past. Figure 2 shows population data for those areas closest to the equine cases reported this year. The Williamstown site, located in the Glassboro Wildlife Management Area, is approximately 16 mi northeast of the confirmed case. In general, the Williamstown populations of Cs. melanura have been static and have not shown any noticeable increase in recent weeks. The Alloway site, located in Parvin State Park, is 11 mi west of the confirmed case and 5 mi south of the earlier presumptive case. Data show that Cs. melanura were increasing at Alloway at the time of the confirmed case and are currently at the highest level of the season.

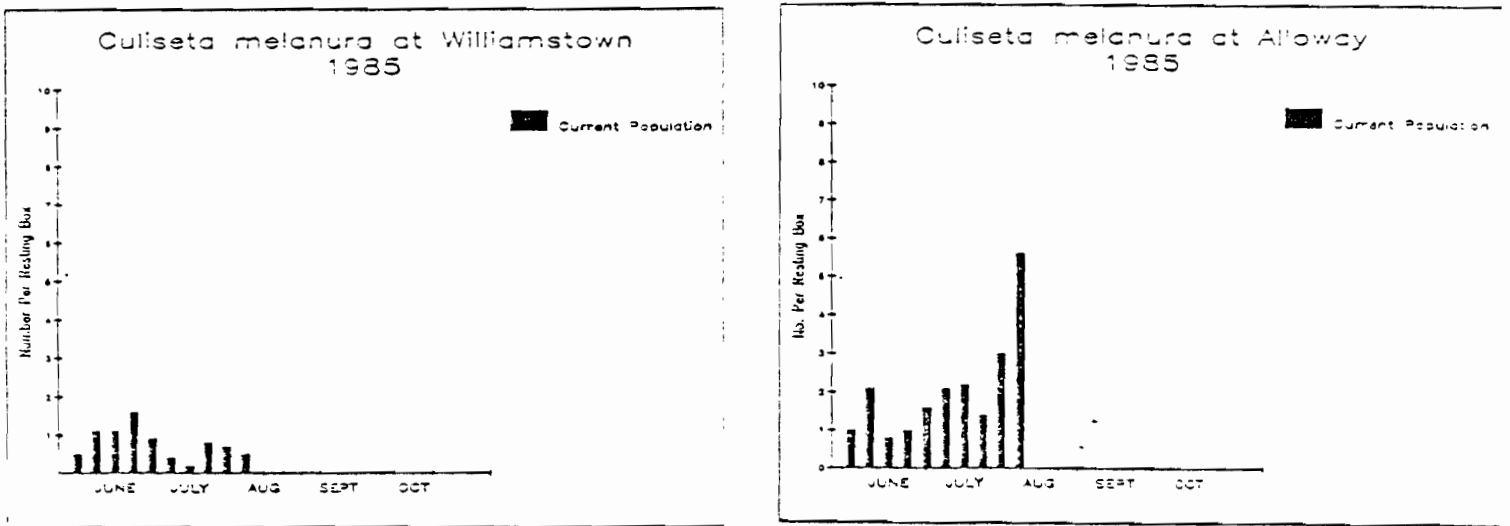


Fig. 2. A Comparison of Cs. melanura Populations at 2 Inland Sites in New Jersey.

No virus has been detected in any of the specimens collected this year. Table 1 lists the virus isolation attempts that have been completed on the Cs. melanura collected from the 7 sites that are being monitored. No results are yet available for the period of the confirmed case. Data from the next several weeks should reveal the extent of EEE amplification and the prospects of more widespread epizootic activity.

Table 1. Virus Isolations from Cs. melanura through July 29, 1985.

	<u>TOTAL TESTED</u>	<u>NO. POOLS</u>	<u>POSITIVE POOLS</u>	
			<u>HJ</u>	<u>EEE</u>
COASTAL SITES				
GREEN BANK	1411	39	0	0
OCEAN CITY	191	23	0	0
DENNISVILLE	2082	48	0	0
FISHING CREEK	634	26	0	0
INLAND SITES				
JACKSON	25	11	0	0
WILLIAMSTOWN	171	23	0	0
ALLOWAY	268	24	0	0

Project Leader	Dr. Wayne J. Crans	
Director, Mosquito Research and Control	Dr. Donald J. Sutherland	
Associate Mosquito Program Staff	John Conigliario	Peg Horan
	John Nemjo	Bunnie Hajek
	Linda McCuiston	
	Heidi Wearne	
Cooperative State/County Personnel		
SNJ Health Department	<u>Epid & Disease</u>	<u>Div. of Labs</u>
	Ronald Altman	Wayne Pizutti
	David Kirsh	Bernard Taylor
	William Parkin	
	Terry Schulze	<u>Consumer Hlth</u>
		Dave Adam
		Walter Gusciora
SNJ Dept of Environmental Protection	Dr. Kenneth W. Bruder	
	Robert B. Kent	
County MEC Superintendents	David Risley	Atlantic
	Brian Gooley	Burlington
	Judy Hansen	Cape May
	Pat Slavin	Cumberland
	John Yeager	Gloucester
	Tom Candeletti	Ocean
	Bill Fisher	Salem
State Mosquito Control Commission	Aaron Rappaport, Chairman	
	Leonard Spiegel	
	Michael Mathis	
	Ralph Evans	
	George Babula	
	George Rue	
	Robert Hughey	
	Arthur Brown	
	Dr. J. Richard Goldstein	
	Dr. Stephen J. Kleinschuster	

Report Prepared by: Dr. Wayne J. Crans
Mosquito Research and Control
Cook College, P. O. Box 231
New Brunswick, New Jersey 08903

New Jersey Agricultural Experiment Station Publication No. R-40500-03-85 supported by State funds and funds from the New Jersey State Mosquito Control Commission.