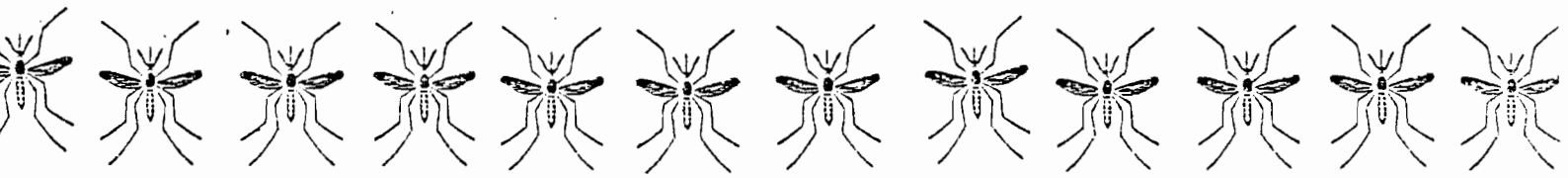

New Jersey Vector Surveillance

NEW JERSEY AGRICULTURAL EXPERIMENT STATION

MOSQUITO RESEARCH AND CONTROL

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Introduction

A human case of EEE was confirmed from a child that lives in Framingham, Mass., but visited the New Jersey shore prior to onset. At the present time it is unclear where the infective bite was acquired since the incubation period overlapped the time spent at both locations. A suspect case from Salem County proved negative when bloods failed to yield any evidence of EEE antibody. Two additional equine cases from the Williamstown area of Gloucester County were confirmed during the past week. Two more presumptive cases in equines from the same area are presently being investigated. Culiseta melanura populations remain high and EEE virus has been recovered from specimens collected at most of the study sites that are being monitored for virus activity.

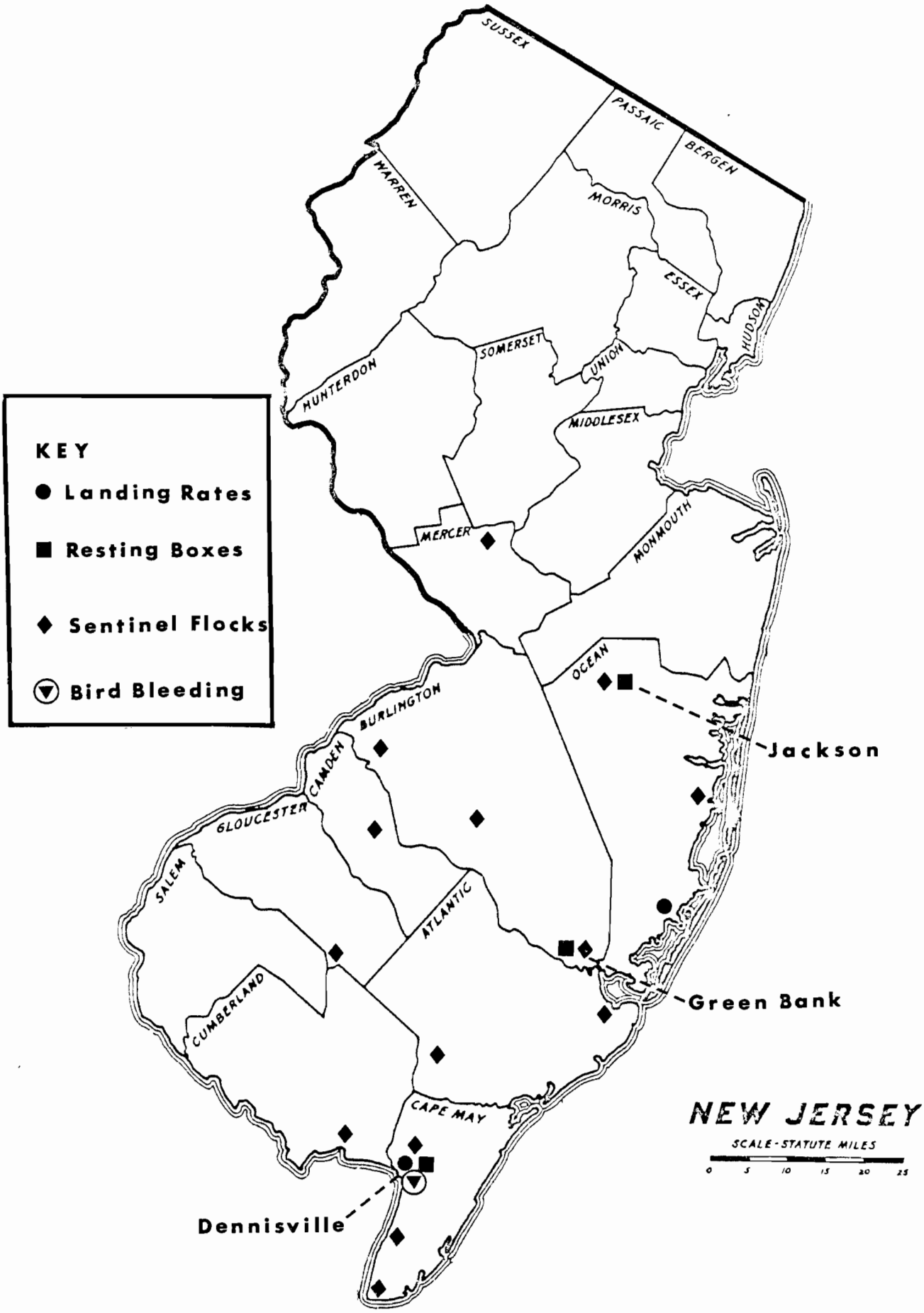
INFORMATION ON THE HUMAN CASE

Health officials from New Jersey and Massachusetts are investigating the events that preceeded a confirmed case of EEE in a 6 year old girl from Framingham, Mass. The child had been vacationing at Ocean City, N.J., but had returned home prior to onset of symptoms. The Framingham area is outside of the main focus for EEE transmission in Massachusetts, but 2 cases have been reported from that area in the past. Ocean City is also very close to the location where a New Jersey case was reported in 1980. Since EEE virus was active in both states when the case was apparently contracted, the infective bite could have been acquired at either location. Special collections are being made from the area surrounding Ocean City with the Cape May County Mosquito Commission and the Atlantic County Mosquito Control Agency conducting most of the sampling.

INFORMATION ON THE EQUINE CASES

A distinct focus for equine involvement has been identified from the Williamstown area of Gloucester County. To date, 3 equine fatalities have been confirmed and 2 more are being investigated. The area is characterized by large tracts of Red Maple swamps and extensive Cs. melanura populations have been detected through larval sampling. EEE virus was also isolated from one of the early pools of Cs. melanura that were collected from the area after the first case. Light trapping results show that Coquillettidia perturbans are present at each of the farms that have been sampled to date. The numbers of Coquillettidia collected at the horse farms, however, have been well below those collected from areas where EEE reached epizootic levels in the past.

The Gloucester County Mosquito Commission has been operating a line of resting boxes on a daily basis to collect additional specimens for virus isolation attempts. The


KEY
Landing Rates
Resting Boxes
Sentinel Flocks
Bird Bleeding
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
HUDSON
HUNTERDON
SOMERSET
UNION
MIDDLESEX
MERCER
MONMOUTH
OCEAN
BURLINGTON
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
CUMBERLAND
CAPE MAY
Jackson
Green Bank
Dennisville
NEW JERSEY
SCALE - STATUTE MILES
0 5 10 15 20 25

collections were initiated before the most recent equine cases and should provide valuable information on the levels of virus in that area of the State.

Trap results from the farm in Monmouth Junction, Middlesex County show that Cq. perturbans were one of the major mosquitoes at that site when the equine case occurred. The light traps also collected Cs. melanura from the property in low numbers.

THE STATUS OF EEE AND ITS MOSQUITO VECTORS

Cs. melanura populations remain very high at the study sites where they are being monitored on a regular basis. Table 1 shows the levels during the 3rd week of August. EEE virus has been isolated from Cs. melanura at Dennisville (West coast study site) and at Green Bank (East coast study site). No EEE virus has yet been detected at the inland site near Jackson, N.J. where horse cases were reported in 1983. HJ virus has been isolated from all of the sites that are being monitored. The results of all isolations to date can be found in Table 2.

Table 1. Number of Cs. melanura per resting box at the 3 sites being monitored in New Jersey.

STUDY SITE	PRESENT POPULATION	7 YR. AVE.
Green Bank	12.9	6.2*
Dennisville	16.2	17.2
Jackson	3.5	-

*7 Year average compiled from New Gretna data.

Results from the sentinel chicken flocks have been dissappointing with no seroconversion in birds that are being maintained at sites where EEE is being isolated from mosquitoes. The Iona Lake site is very close to the area where the equine fatalities have been occurring. Table 3 lists all of the flocks that are being monitored together with the last dates of testing.

The full moon flooding of August 11 produced a brood of Aedes sollicitans that is presently at 50% parity. The brood is presently being controlled on the basis of vector potential. The new moon flooding of August 26 will produce a second influx of specimens that should emerge very close to the Labor Day weekend. The cool weather that New Jersey is currently experiencing may slow development of the larvae to the point where emergence occurs after the holiday.

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Table 2. Virus isolations from mosquitoes collected at the three study sites in New Jersey *

GREEN BANK				
HJ Virus				
	1. 7/16/84	Cs. mel.	32	Engorged
	2. 7/23/84	Cs. mel.	60	Engorged
	3. 8/02/84	Cs. mel.	117	Empty
	4. 8/02/84	Cs. mel.	63	Engorged
	5. 8/06/84	Cs. mel.	100	Empty
	6. 8/06/84	Cs. mel.	56	Empty
	7. 8/06/84	Cs. mel.	19	Gravid
EEE Virus				
	1. 8/09/84	Cs. mel.	7	Black-blooded
	2. 8/13/84	Cs. mel.	89	Empty
	3. 8/13/84	Cs. mel.	36	Engorged
	4. 8/13/84	Cs. mel.	32	Black-blooded
JACKSON				
HJ Virus				
	1. 8/07/84	Cs. mel.	52	Empty
	2. 8/07/84	Cs. mel.	51	Engorged
	3. 8/07/84	Cs. mel.	16	Black-blooded
EEE Virus				
	No Isolations to Date			

Table 2 (cont)

		DENNISVILLE		
HJ Virus				
1.	7/02/84	Cs. mel.	57	Engorged
2.	7/02/84	Cs. mel.	111	Black-blooded
3.	7/05/84	Cs. mel.	26	Engorged
4.	7/05/84	Cs. mel.	24	Gravid
5.	7/09/84	Cs. mel.	100	Empty
6.	7/09/84	Cs. mel.	100	Empty
7.	7/09/84	Cs. mel.	100	Empty
8.	7/09/84	Cs. mel.	38	Black-blooded
9.	7/12/84	Cs. mel.	90	Engorged
10.	7/12/84	Cs. mel.	100	Black-blooded
11.	7/16/84	Cs. mel.	47	Engorged
12.	7/16/84	Cs. mel.	48	Black-blooded
13.	7/19/84	Cs. mel.	100	Empty
14.	7/19/84	Cs. mel.	45	Black-blooded
15.	7/23/84	Cs. mel.	70	Engorged
16.	7/26/84	Cs. mel.	100	Empty
17.	7/26/84	Cs. mel.	20	Black-blooded
18.	7/30/84	Cs. mel.	100	Empty
19.	7/30/84	Cs. mel	100	Empty
20.	7/30/84	Cs. mel.	97	Gravid
21.	7/30/84	Cs. mel.	50	Black-blooded
22.	8/02/84	Cs. mel.	100	Empty
23.	8/02/84	Cs. mel.	73	Gravid
24.	8/02/84	Cs. mel.	100	Black-blooded
25.	8/02/84	Cs. mel.	71	Black-blooded
26.	8/06/84	Cs. mel.	45	Black-blooded
27.	8/09/84	Cs. mel.	100	Empty
28.	8/09/84	Cs. mel.	70	Empty
29.	8/09/84	Cs. mel.	77	Gravid
30.	8/13/84	Cs. mel.	97	Engorged
31.	8/13/84	Cs. mel.	98	Black-blooded
EEE Virus				
1.	8/02/84	Cs. mel.	100	Empty
2.	8/02/84	Cs. mel.	100	Empty
3.	8/06/84	Cs. mel.	100	Empty
4.	8/09/84	Cs. mel.	100	Engorged
5.	8/13/84	Cs. mel.	100	Empty

* Tested Through 8/13/84

Table 3. Sentinel chicken flocks being monitored for arbovirus in New Jersey

County	Area	Tested Through	Results
	EEE SENTINELS		
Ocean	Jackson	Aug 1	
	Forked River	Aug 1	
Burlington	Green Bank	Aug 1	
Atlantic	Smithville	July 31	
	Estelle Manor	July 31	
Cape May	Pond Creek	July 30	ALL FLOCKS NEG
	Fishing Creek	July 30	TO DATE
	Dennisville	July 30	
Cumberland	Port Norris	Aug 7	
Gloucester	Iona Lake	Aug 7	
	SLE SENTINELS		
Camden	Voorhees	June 27	
Burlington	Cinnaminson	July 11	ALL FLOCKS NEG
	Indian Mills	July 3	TO DATE
Mercer	Windsor	July 11	

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