

NEW JERSEY STATE MOSQUITO CONTROL COMMISSION

Vector Surveillance Report

MOSQUITO RESEARCH AND CONTROL
NEW JERSEY AGRICULTURAL EXPERIMENT STATION

Vol. 2 No. 7

Period September 12-13, 1977

Introduction

The tourist season in New Jersey has now ended and the number of visitors to the shore area has decreased markedly. The last major brood of Ae. sollicitans has declined but landing rates and parous rates are erratic at most locations.

Salt marsh floodings from either rains or tides will still produce Ae. sollicitans but data from previous years suggest that the populations are difficult to follow. Broods which emerge from the marsh at this time of year usually do not move directly inland to cause annoyance. In most cases, the mosquitoes remain near the ecotonal edge between the marsh and the upland. If the weather is cool, the mosquitoes often congregate in pockets which afford protection. Biting can be intense along tree lines but nonexistent in open fields.

Light trap collections at this time of year do not appear to give an accurate estimation of the biting population. This is probably due to a combination of cooler nights and decreased activity on the part of the mosquitoes. In many cases, light trap records indicate minimal Ae. sollicitans while landing rates show that biting is intense. Biting, however, is almost always localized; thus data must be accumulated on a local basis.

The Ae. sollicitans and Cs. melanura populations will be followed into the fall at each of the sites selected for vector surveillance. Material will also be submitted for virus assay on a regular basis to define virus activity within the enzootic cycle. The material will not be reported on a weekly basis, but a summation of the year's activities and findings will be issued in October.

Results for the Period September 12-13, 1977

Aedes sollicitans

Data from this week's vector surveillance trip show a great deal of variation in the Ae. sollicitans populations in the State. The vector potential index at West Creek in Ocean County was found to be one of the lowest recorded this season at that site. On the same date, the vector potential index at Dennisville in Cape May County was the highest recorded this year at that site. Most of the mosquitoes are remnants of an earlier emergence and parity is above 75%. The static conditions suggest that fresh specimens are being added to each population at about the same rate that mortality is occurring.

Culiseta melanura

The Cs. melanura populations showed evidence of declining at each of the sites this week. Collections at New Gretna dropped from 3.2 to 1.4 Cs. melanura per resting box. At Dennisville the Cs. melanura dropped from 18.0 to 8.6 per box.

The recovery of Cs. melanura after the dry weather that New Jersey experienced this summer has been dramatic. Light trap records from around the State indicate that the species has been increasing in all areas. Sentinel resting boxes which were placed in 3 different counties show a similar trend.

Cs. melanura adults will probably continue to decline into the fall as pupation diminishes and the larvae enter diapause. Parity at Dennisville was recorded at 30%. The figure should rise rapidly over the next several weeks and reach 100% by late October.

The Status of Culex tarsalis in New Jersey

One additional Culex tarsalis was collected during the past week. The mosquito was recovered in a CDC trap baited with CO₂ and represents the 7th specimen taken this year.

All of the Cx. tarsalis to date have been collected in coastal areas of the State. The first was recovered on August 26; the remainder were taken in late August and early September. Distribution has been particularly spotty with specimens appearing on Long Beach Island as well as the mainland from New Gretna to Toms River.

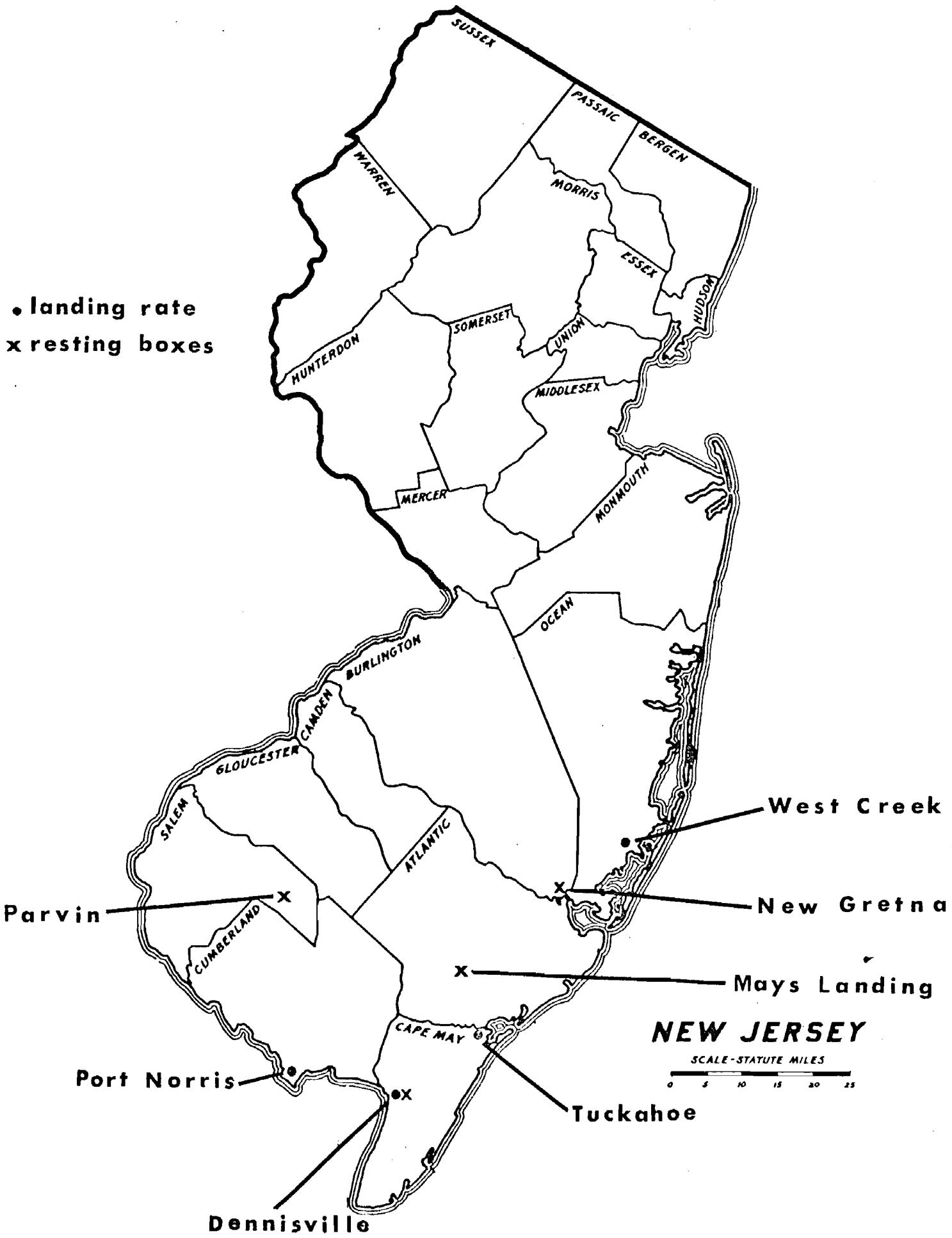
CO₂-baited traps appear to be an adequate tool to sample the low levels of this species that presently occur in New Jersey. Standard New Jersey light traps collected the initial specimens but the CDC traps have been responsible for all of the collections since August 30.

Data indicate that Cx. tarsalis is established at low levels in this area of the State. Whether or not the species will increase in numbers cannot be answered at this time.

List of Personnel:

Project Leader:	Wayne J. Crans	
Surveillance Specialist:	Jere D. Downing	
Mosquito Program Coordinator:	Anthony A. Di Edwardo	
Mosquito Program Acting Director:	Harry D. Brown	
State Airspray Program Director:	Donald J. Sutherland	
Associate Mosquito Program Staff:	Bunnie Hajek Robert Kent Ned Jacobson	Sherry Smith Noel Shubert Leon Blaustein
Cooperating Experiment Station Personnel:	David Tudor Otto Schwabe	
Cooperating State Health Personnel:	Ronald Altman Oscar Sussman	Walter Gusciora David Adams
State Health Associate Staff:	Barry Cherney Richard Meyer Gregory Siwinski	
Cooperating County Mosquito Control Superintendents:	Frederick Lesser, Ocean County Brian Gooley, Burlington County Judy Hansen, Cape May County Joseph Mason, Atlantic County Patrick Slavin, Cumberland County William Fisher, Salem County	
State Mosquito Control Coordinator:	Kenneth W. Bruder	
State Mosquito Control Commission:	Eleanore Renk Grant Walton Aaron Rappaport Theodore Czech Leonard Spiegel Benjamin Hiatt James Gaspari	

Study Sites



Aedes sollicitans

SITE WEST CREEK

COUNTY Ocean

COLLECTION DATA

Date Sept. 12, 1977

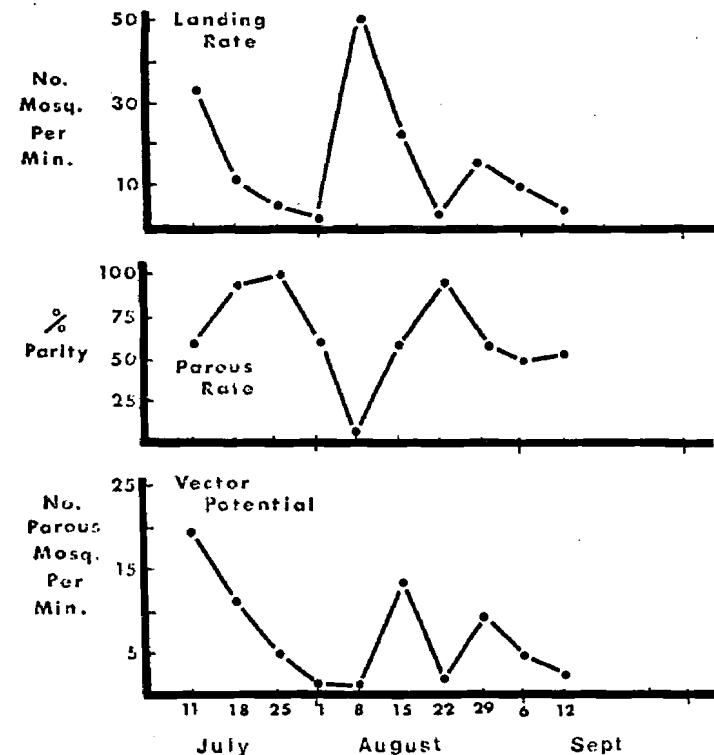
Landing Rate 4/min

Parous Rate 55%

Vector Potential 2.2
(Parous Landing Rate)

REMARKS: The vector potential of Ae. sollicitans remains low at this site.

CUMULATIVE RECORD



NOTES:

Aedes sollicitans

SITE TUCKAHOE

COUNTY Cape May

COLLECTION DATA

Date Sept. 12, 1977

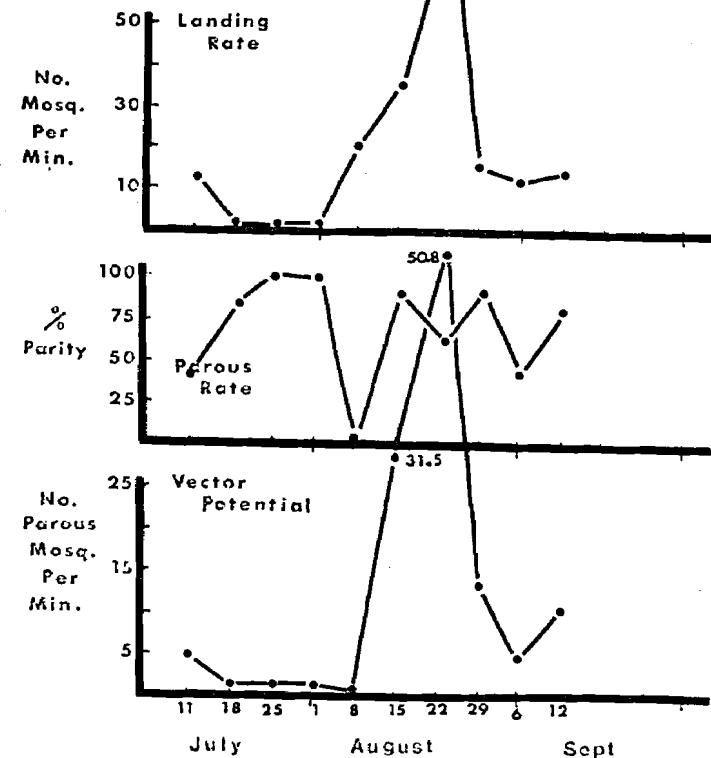
Landing Rate 13/min

Parous Rate 80%

Vector Potential 10.4
(Parous Landing Rate)

REMARKS: The Ae. sollicitans at this site are restricted to pockets where the adults have protection. Biting is severe in some of the localities.

CUMULATIVE RECORD



NOTES:

Aedes sollicitans

SITE DENNISVILLE

COUNTY Cape May

COLLECTION DATA

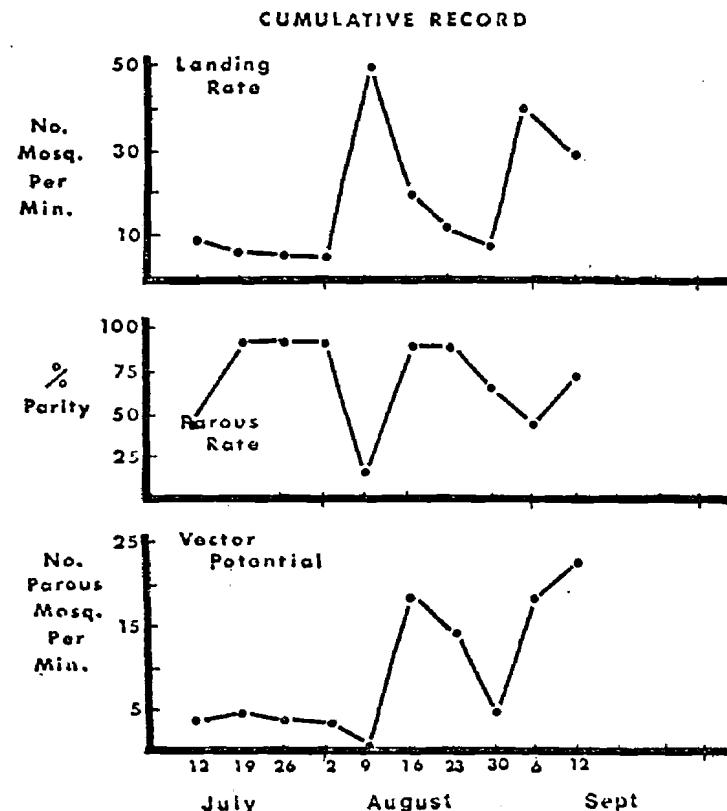
Date Sept. 12, 1977

Landing Rate 30/min

Parous Rate 75%

Vector Potential 22.5
(Parous Landing Rate)

REMARKS: Numerous mosquitoes remain from the last emergence. The vector potential rating is the highest of the sea



NOTES:

Aedes sollicitans

SITE PORT NORRIS

COUNTY Cumberland

COLLECTION DATA

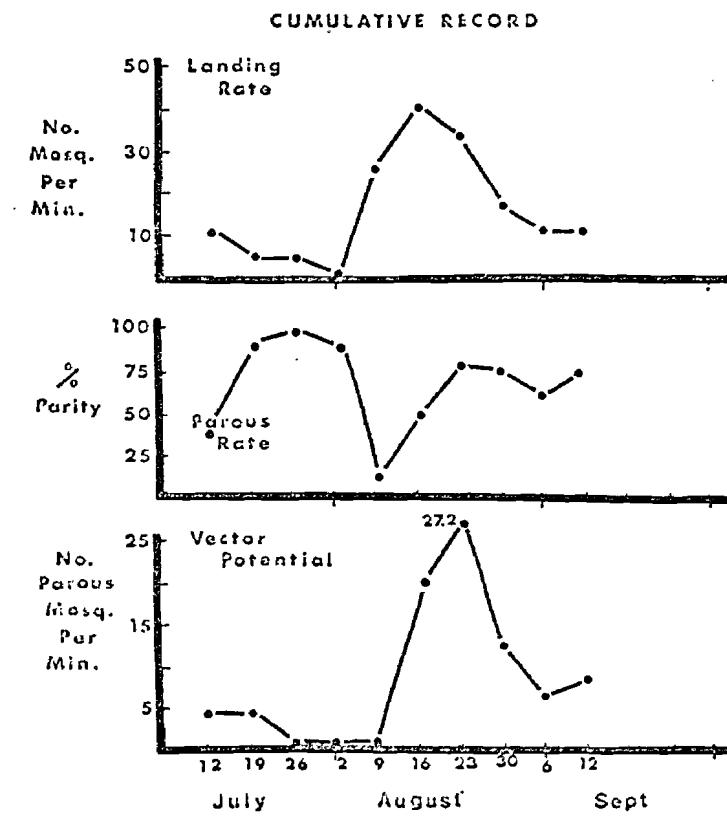
Date Sept. 12, 1977

Landing Rate 12/min

Parous Rate 75%

Vector Potential 9.0
(Parous Landing Rate)

REMARKS: Numerous Ae. taeniorhynchus are mixed in with Ae. sollicitans at this site



NOTES:

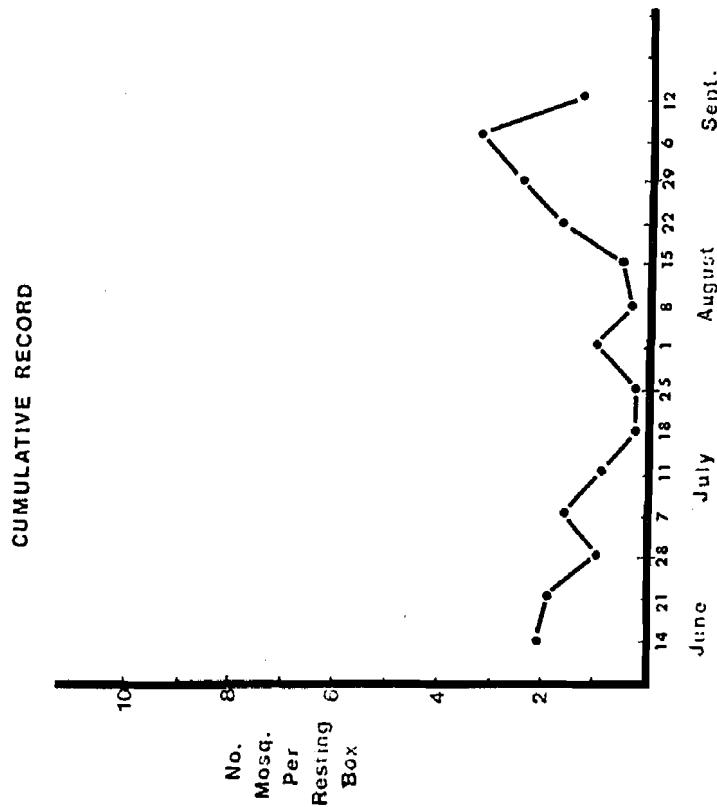
Culiseta melanura

SITE NEW GRETNA
 COUNTY Burlington
 COLLECTION DATA
 Date Sept. 12, 19
 No. Boxes
 Examined: 21
 Total C. mel. 3
 C. mel./ Box 1

REMARKS: This population appears to declining after a 4 week period of steady increase.

**SITE DENNISVILLE
COUNTY Cape May
COLLECTION DATA
Date Sept. 12, 1951
No. Boxes Examined: 25**

REMARKS: This population appears to have peaked although numerous males are still present. Parous rate recorded at 30%.



NCTTS: Submitted 20 blooded and 10 nonblooded Cs. melanura from this population for virus assay.

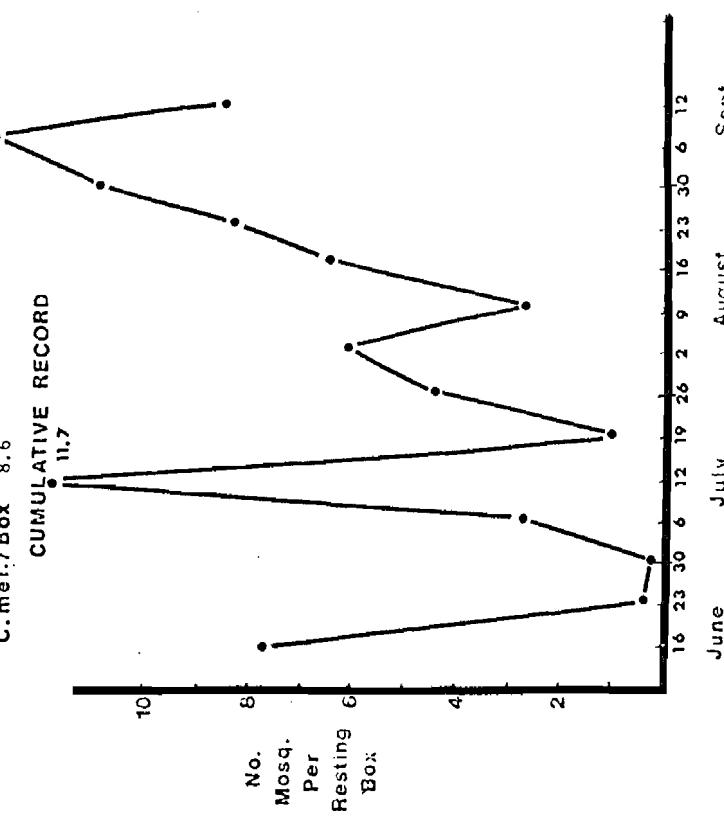
NOTES: Submitted 54 bled and 160 nonbled Cs. melanura from this population for virus assay.

Culicella melanura

**SITE DENNISVILLE
COUNTY Cape May
COLLECTION DATA
Date Sept. 12, 1951
No. Boxes Examined: 25**

REMARKS: This population appears to declining after a 4 week period of steady increase.

144



Data From Vineland Diagnostic Laboratories

Collected in melanaria tested for EE virus during 1977

<u>Date Collected</u>	<u>Area</u>	<u>No. Tested</u>	<u>Initial Screening</u>	<u>Confirmation of Positive Pool</u>
7/25/77	New Gretna	5 blooded 3 nonblooded	Negative Negative	
7/26/77	Dennisville	19 blooded 186 nonblooded	Negative Negative	
8/01/77	New Gretna	32 blooded 16 nonblooded	Negative Negative	
8/02/77	Dennisville	37 blooded 116 nonblooded	Negative Negative	
8/02/77	Parvin	7 blooded	Negative	
8/06/77	New Gretna	5 blooded 3 nonblooded	Negative Negative	
8/08/77	Mays Landing	3 nonblooded	Negative	
8/09/77	Dennisville	10 blooded 39 nonblooded	Negative Negative	
8/15/77	Warren Grove	2 blooded 1 nonblooded	Negative Negative	
8/15/77	New Gretna	4 blooded 8 nonblooded	Negative Negative	
8/16/77	Dennisville	40 blooded 110 nonblooded	Negative Negative	
8/22/77	New Gretna	23 blooded 15 nonblooded	Negative Negative	
8/22/77	Warren Grove	2 blooded 3 nonblooded	Negative Negative	
8/23/77	Mays Landing	2 nonblooded	Negative	
8/23/77	Dennisville	49 blooded 159 nonblooded	POSITIVE Negative	
8/23/77	Parvin	2 blooded 1 nonblooded	Negative Negative	
8/29/77	New Gretna	46 blooded 13 nonblooded		
8/29/77	Mays Landing	2 blooded 1 nonblooded		
8/30/77	Dennisville	108 blooded 108 nonblooded		
9/6/77	New Gretna	65 blooded 15 nonblooded		
9/6/77	Dennisville	100 blooded 175 nonblooded		
9/12/77	New Gretna	20 blooded 10 nonblooded		
9/12/77	Dennisville	54 blooded 160 nonblooded		

Specimens Submitted for Virus Assay

<u>Aedes sollicitans</u>	<u>Date Collected</u>	<u>Area</u>	<u>No. Tested</u>	<u>Initial Screening</u>	<u>Confirmation of Positive Pool</u>
	8/15/77	West Creek	100	Negative	
	8/15/77	Tuckahoe	381	Negative	
	8/16/77	Dennisville	100	Negative	
	8/16/77	Port Norris	175	Negative	
	8/22/77	West Creek	30	Negative	
	8/22/77	Tuckahoe	200	Negative	
	8/23/77	Dennisville	100	Negative	
	8/23/77	Port Norris	365	Negative	
	8/29/77	West Creek	69		
	8/29/77	Tuckahoe	161		
	8/30/77	Dennisville	46		
	8/30/77	Port Norris	100		
	8/30/77	West Creek	51		
	9/6/77	Tuckahoe	115		
	9/6/77				