

NEW JERSEY STATE SURVEILLANCE

Weekly Report for Week 32, 05 August – 11 August, 2003

Submitted by Lisa Reed and Wayne Crans

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Purpose: Data from 84 New Jersey light traps contributed by county mosquito control agencies are used to calculate trends in mosquito populations for species of nuisance or health concerns.

Calculations are based on regional distributions, with emphasis on mosquito habitat and land use. Trends will allow a statewide evaluation of changing mosquito populations, in response to control and/or changes in habitat.

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Figure 1a: Map of ten regions selected for the New Jersey Surveillance Program overlaid with county borders.

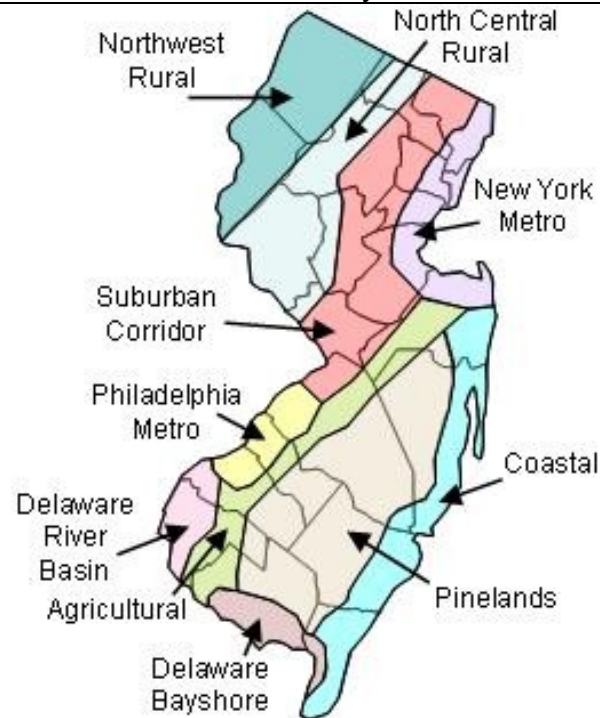


Figure 1b. Trap lat-long locations.



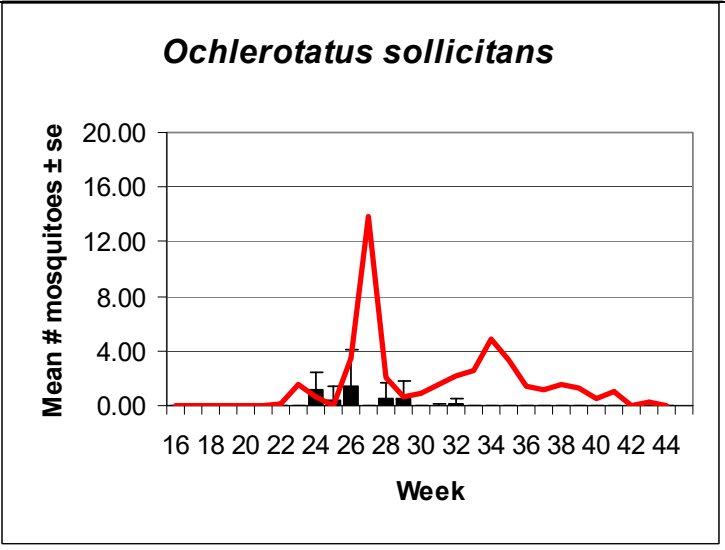
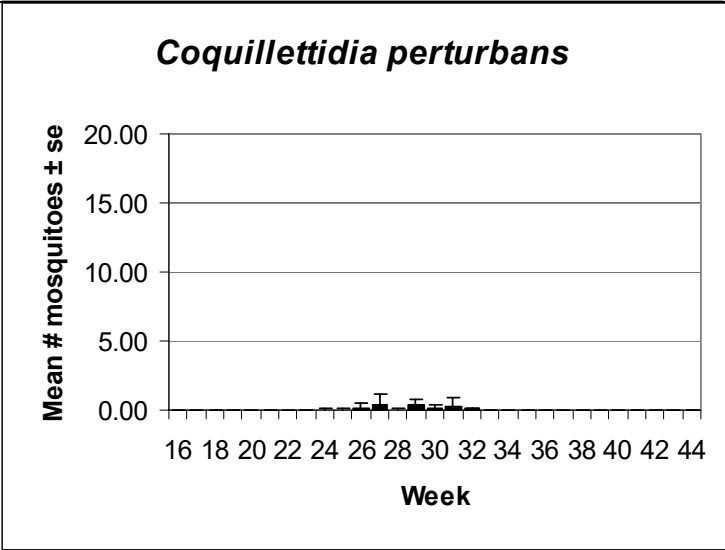
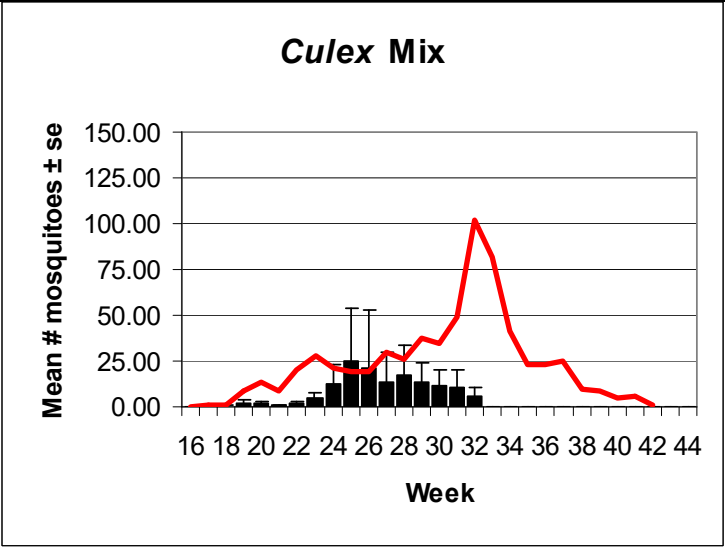
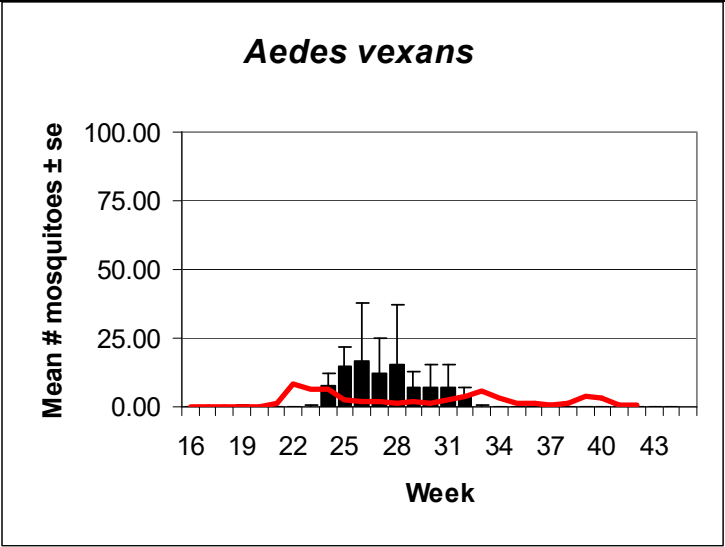
Summary table

	<i>Aedes vexans</i>		<i>Culex complex</i>		<i>Coquillettidia perturbans</i>		<i>Ochlerotatus sollicitans</i>	
Region	This Week	Average*	This Week	Average*	This Week	Average*	This Week	Average*
Agricultural	3.97	1.48	5.45	34.55	0.07		0.14	2.14
Coastal	1.10	1.95	6.14	3.16	0.05		21.46	18.47
Delaware Bayshore	0.48		12.05		0.57		2.24	
Delaware River Basin	2.29	21.68	5.07	9.30	0.00		0.00	4.88
New York Metro	4.10	4.27	7.64	4.67	0.01		0.14	0.30
North Central Rural	2.63		3.30		0.33		0.00	
Northwest Rural	6.76		14.14		0.00		0.00	
Philadelphia Metro	9.80		7.45		0.00		0.00	
Pinelands	0.78	1.01	10.64	1.98	0.62		0.08	
Suburban Corridor	10.04	23.19	6.47	2.56	0.38		0.07	

- Complete data not yet available.

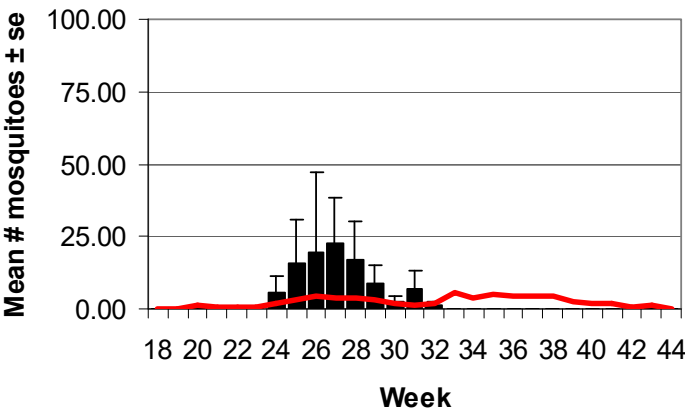
Please Note: Historical data is being entered and not yet complete. These values and graphics will change as more data is entered.

Agricultural

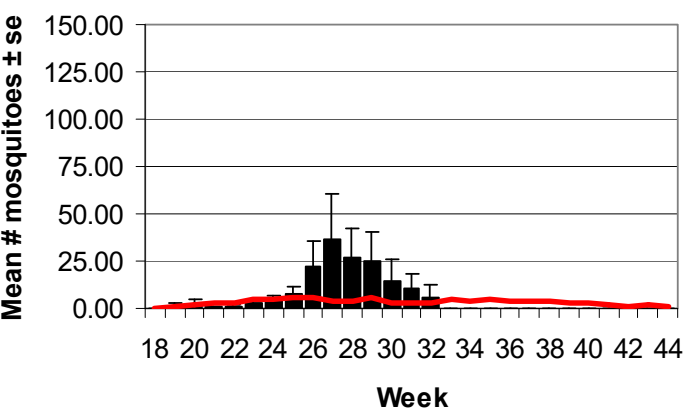


Coastal

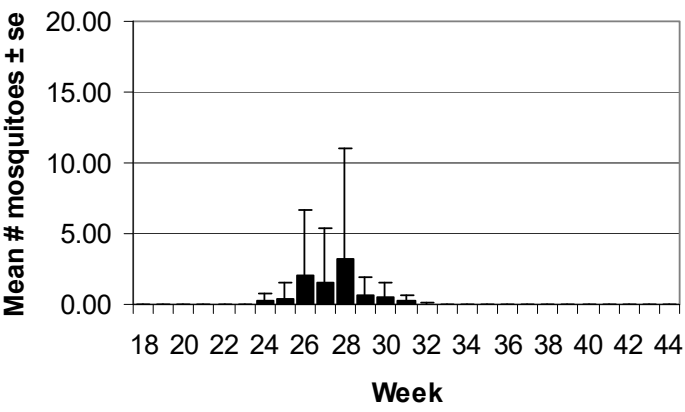
Aedes vexans



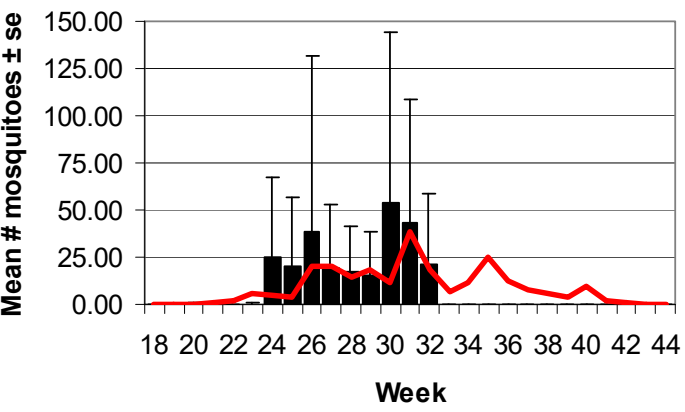
Culex Mix



Coquillettidia perturbans

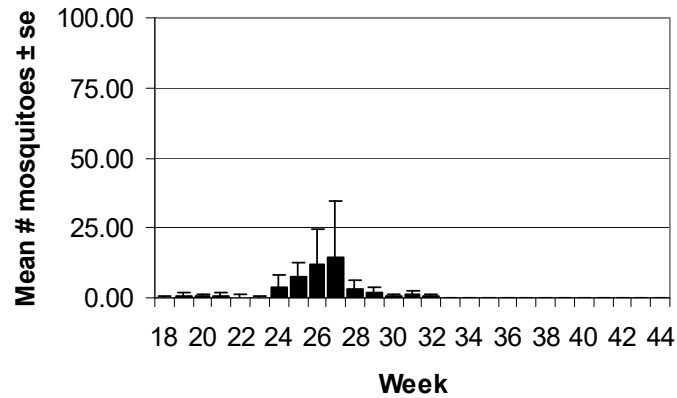


Ochlerotatus sollicitans

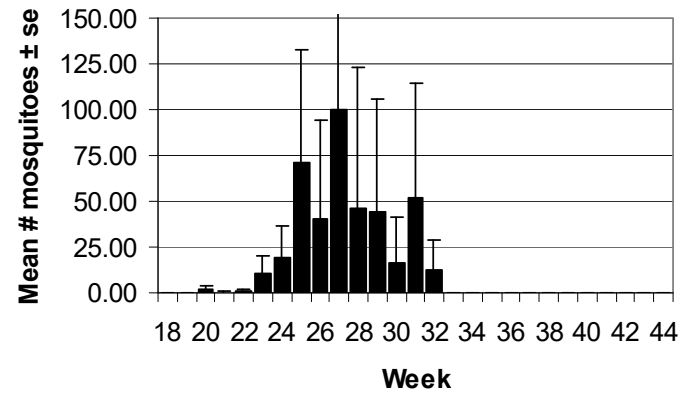


Delaware Bayshore

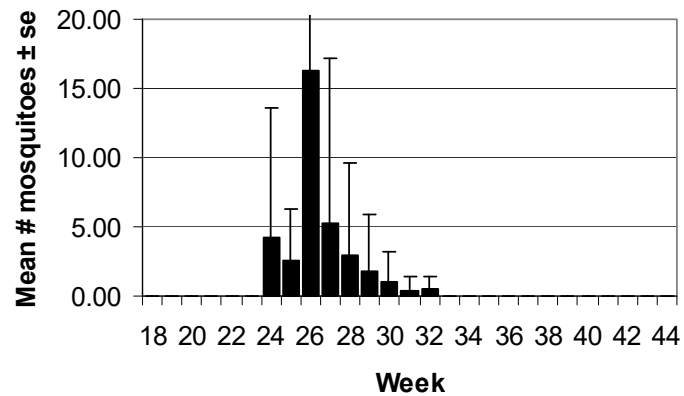
Aedes vexans



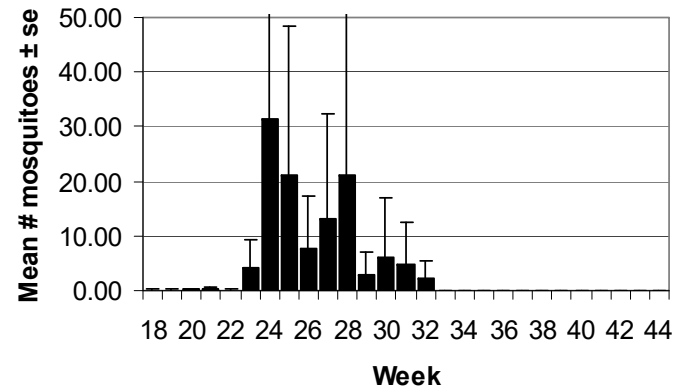
Culex Mix



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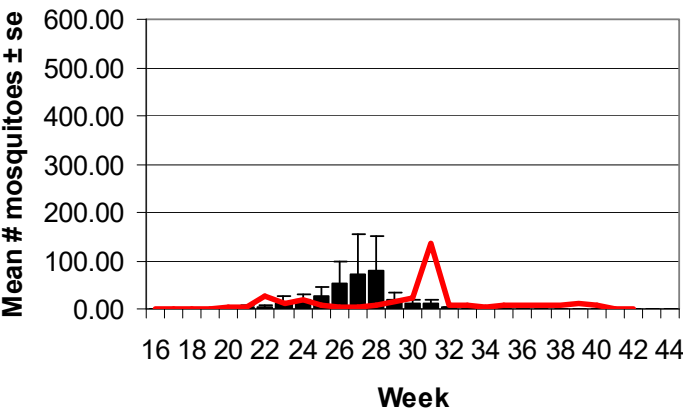


Ochlerotatus sollicitans

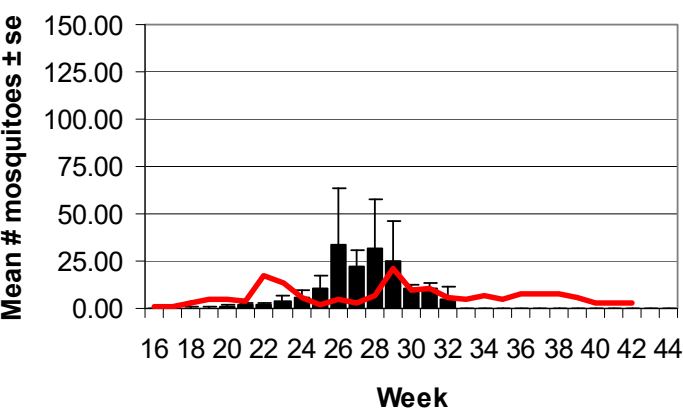


Delaware River Basin

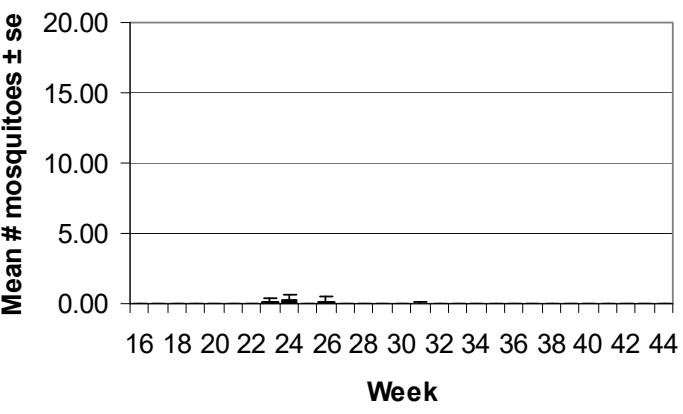
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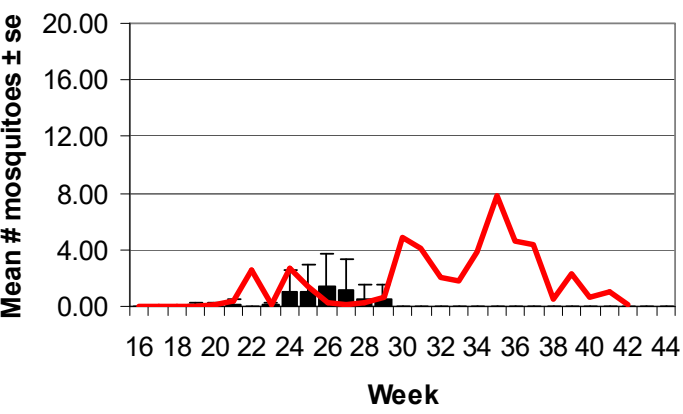
Culex Mix



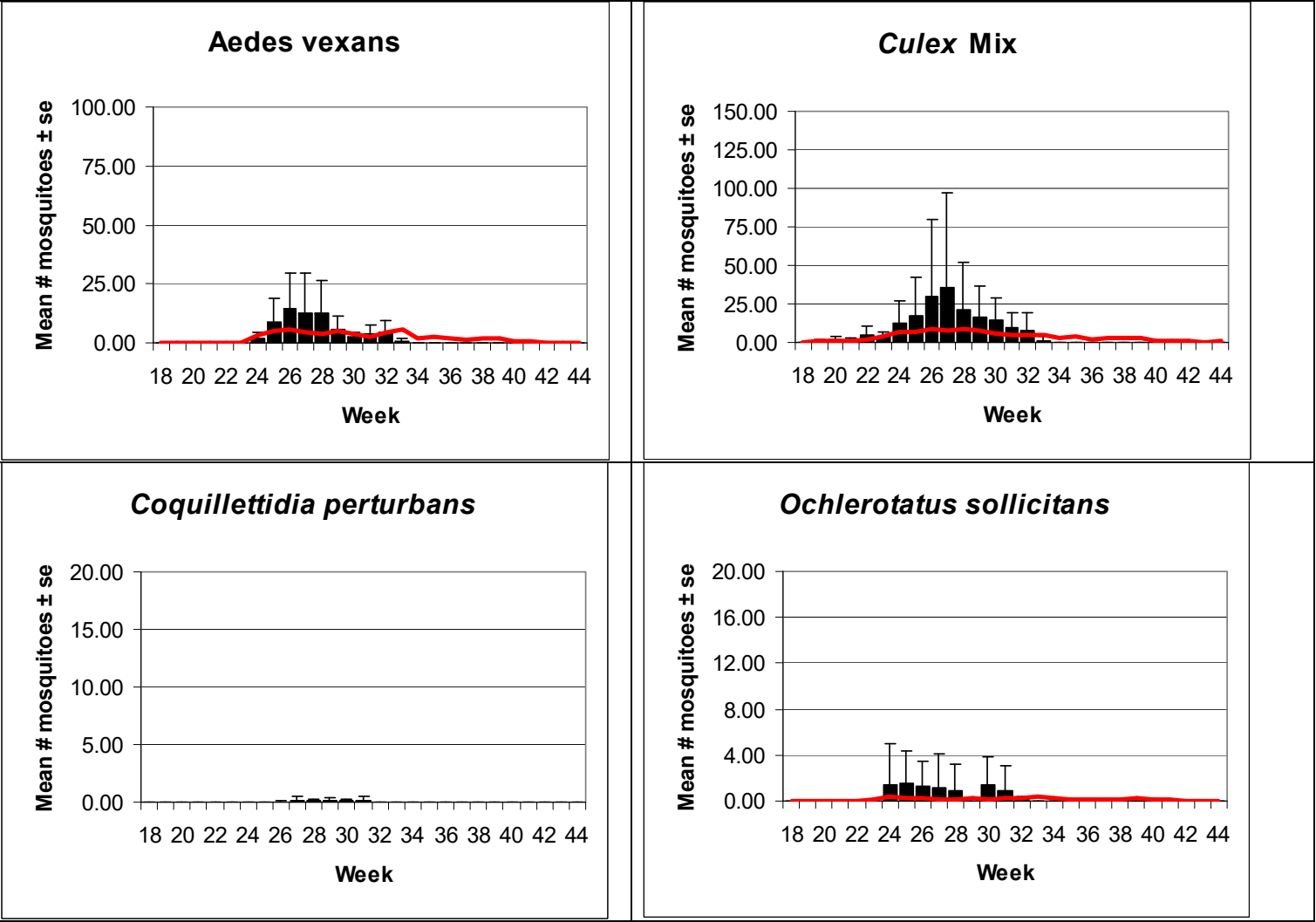
Coquillettidia perturbans



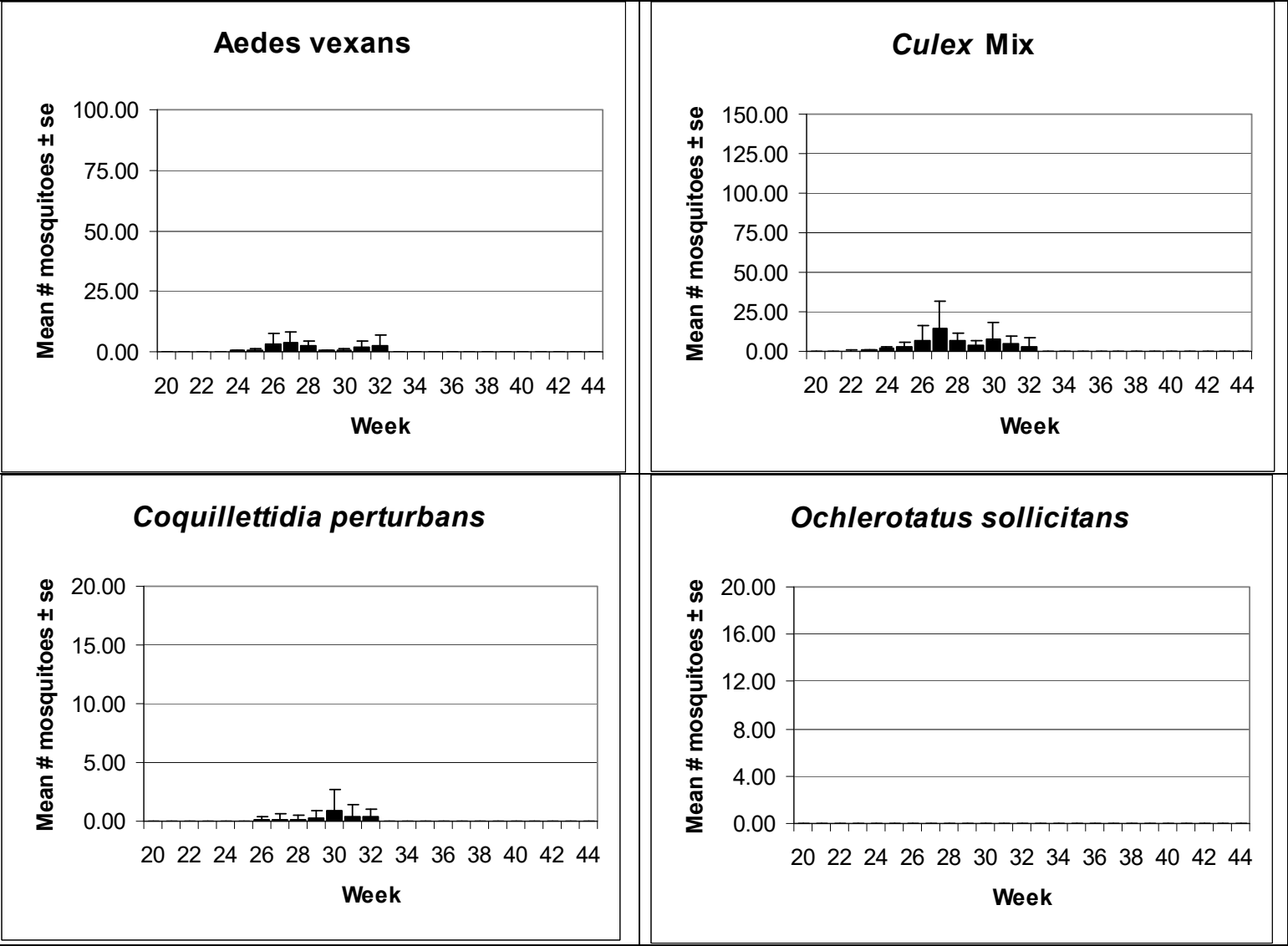
Ochlerotatus sollicitans



New York Metro

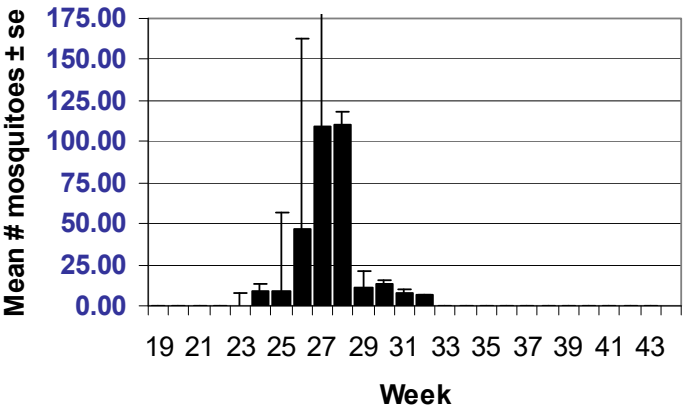


North Central Rural

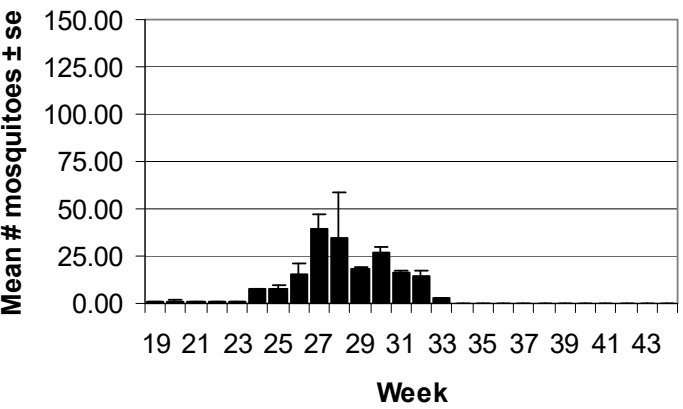


Northwestern Rural

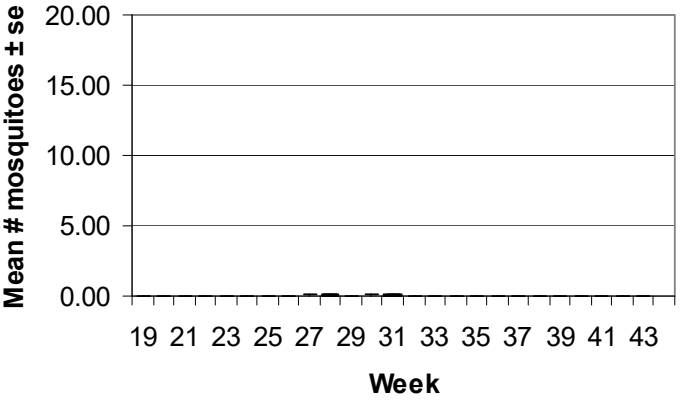
Aedes vexans



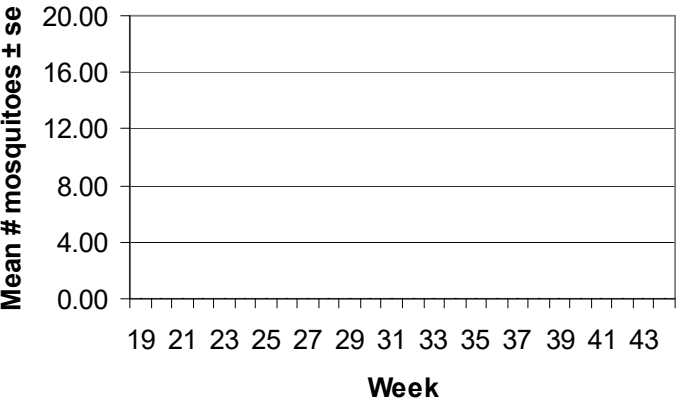
Culex Mix



Coquillettidia perturbans

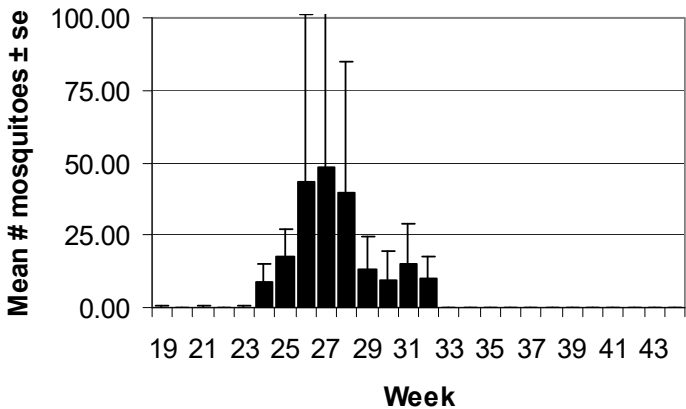


Ochlerotatus sollicitans

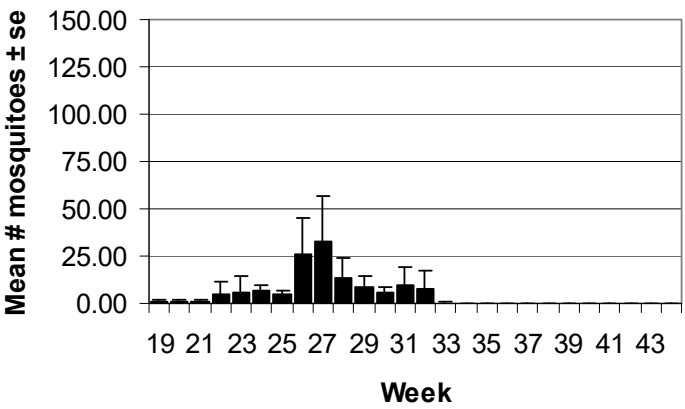


Philadelphia Metro

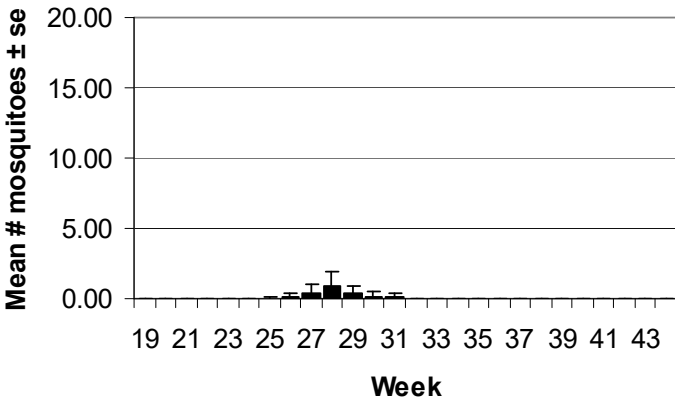
Aedes vexans



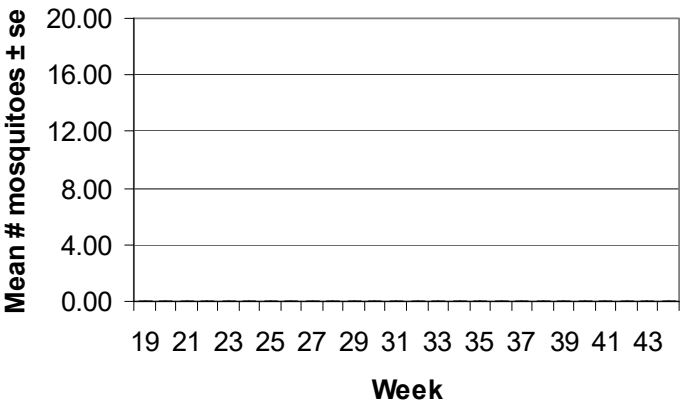
Culex Mix



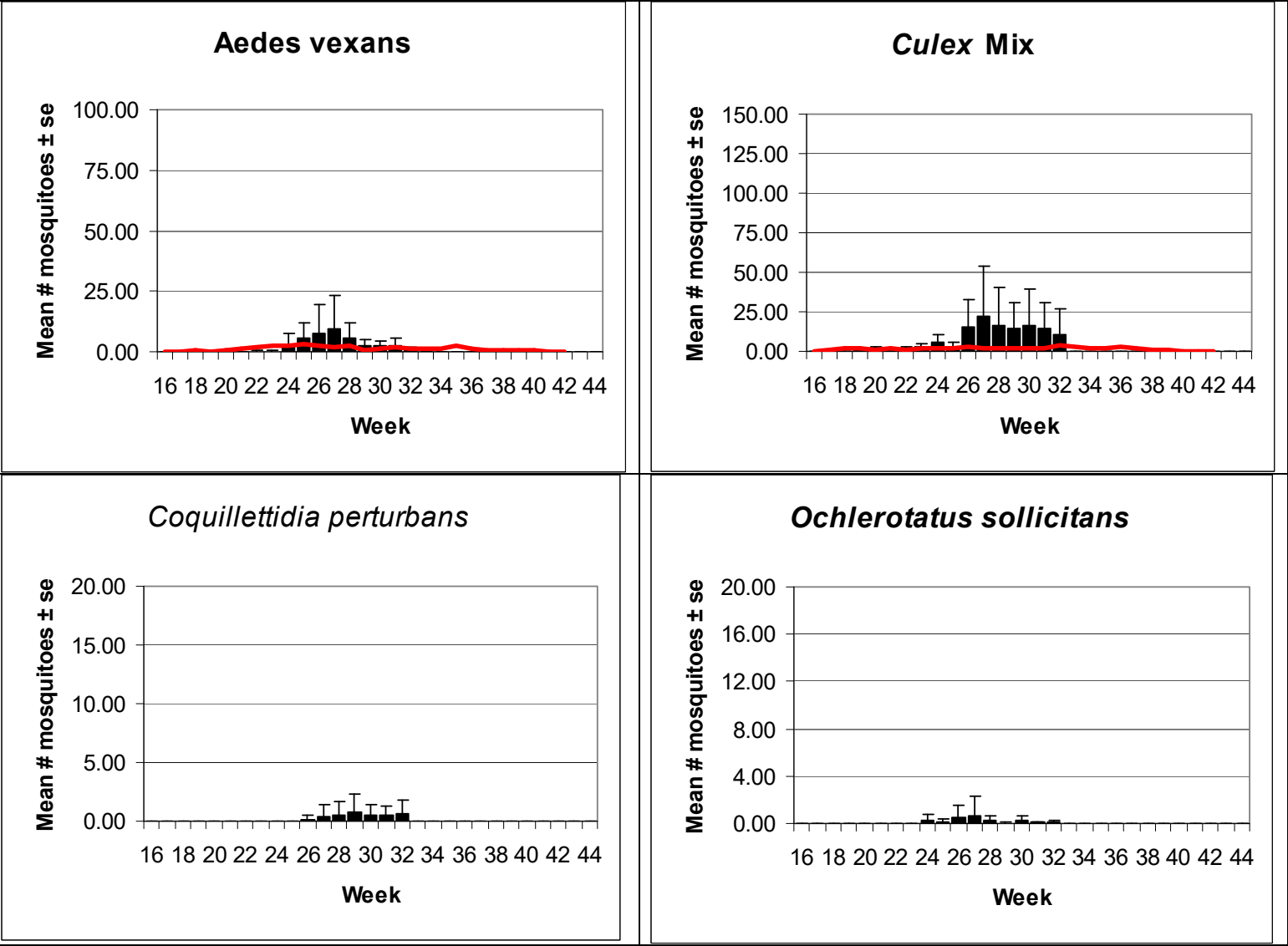
Coquillettidia perturbans



Ochlerotatus sollicitans

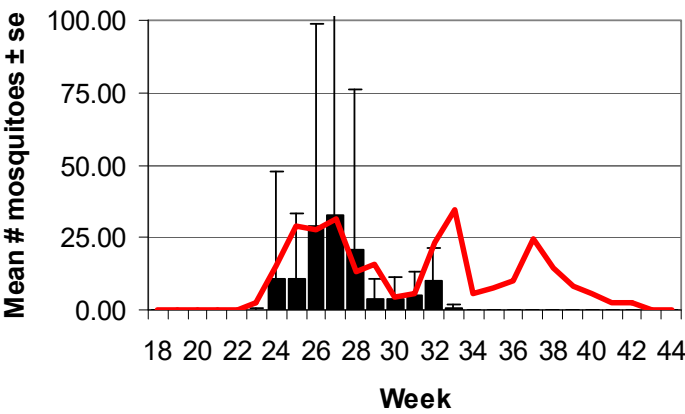


Pinelands

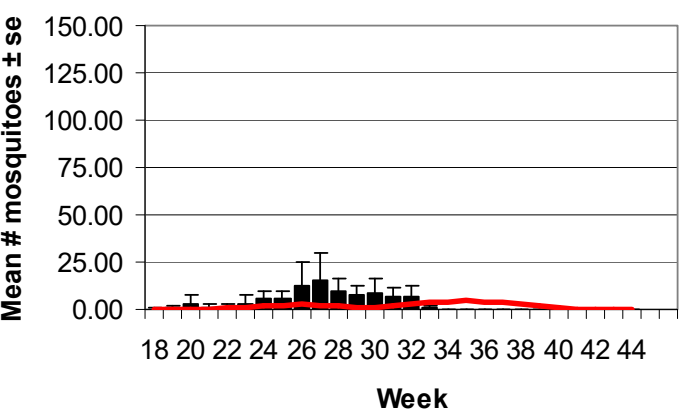


Suburban Corridor

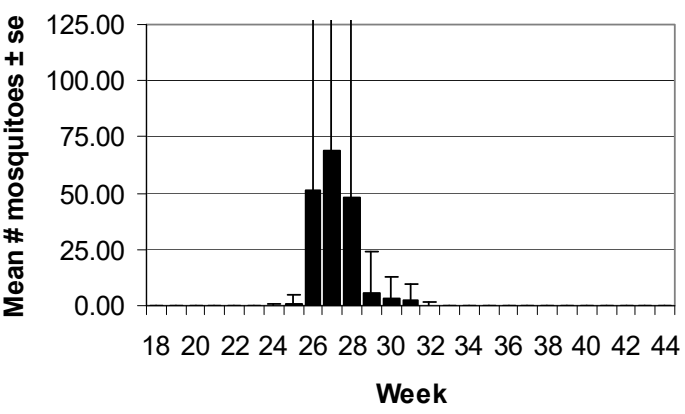
Aedes vexans



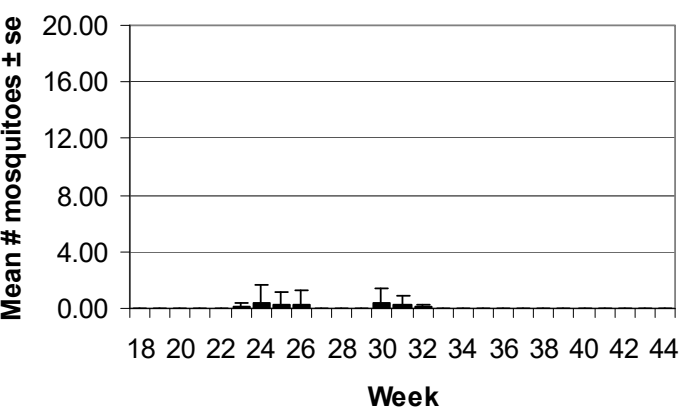
Culex Mix



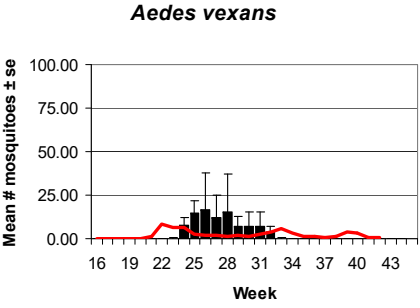
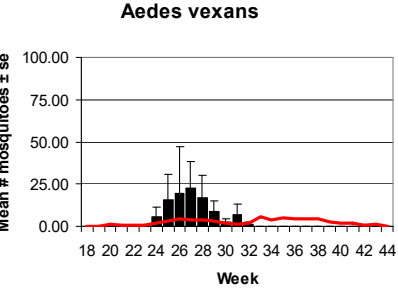
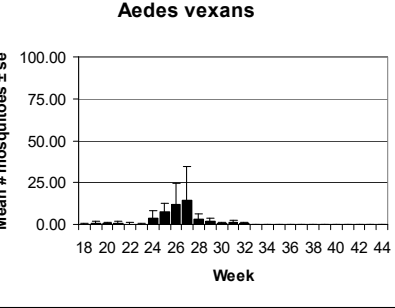
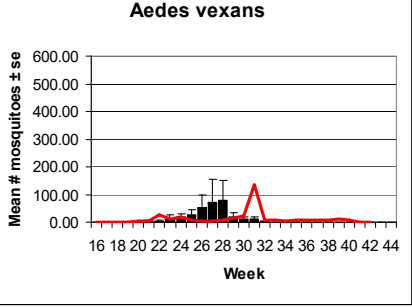
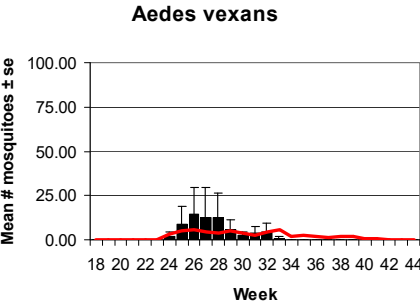
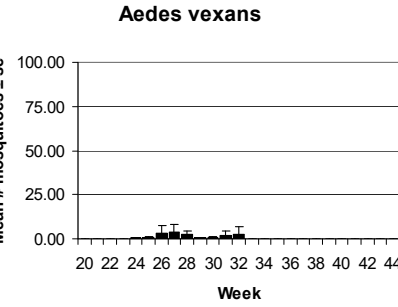
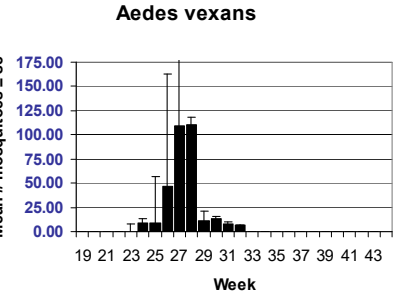
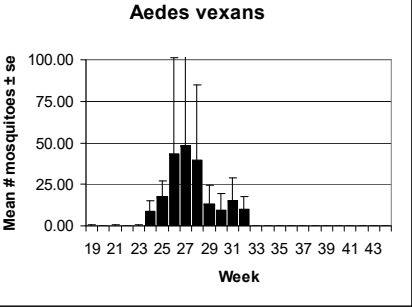
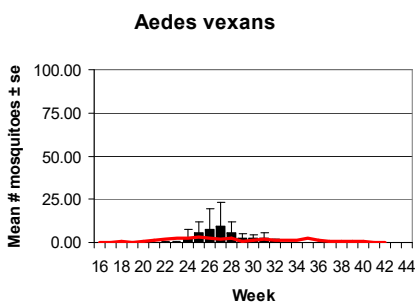
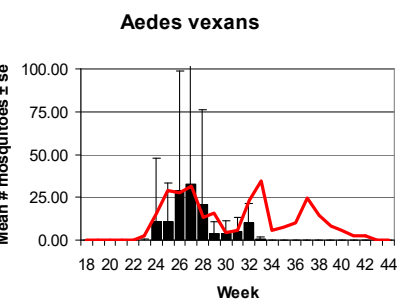
Coquillettidia perturbans



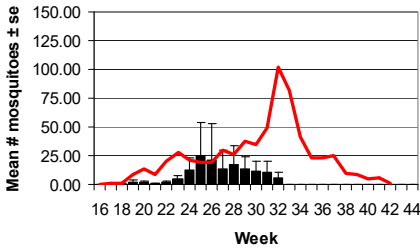
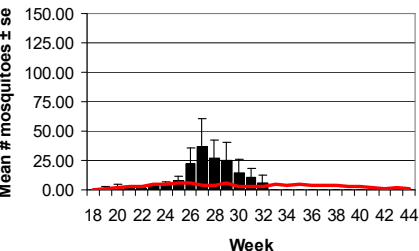
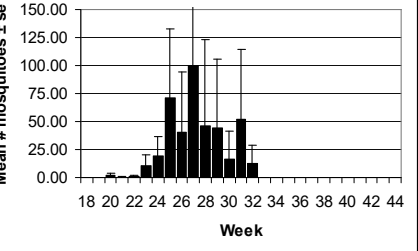
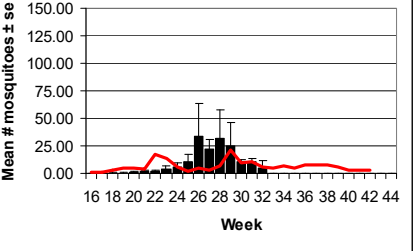
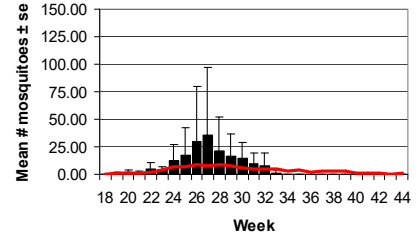
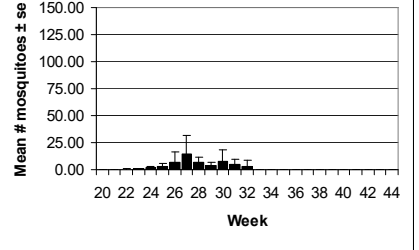
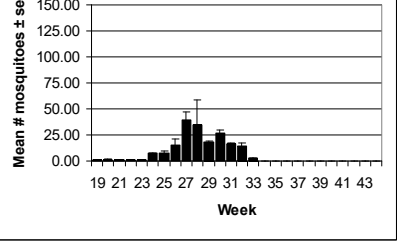
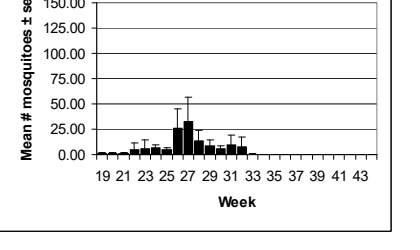
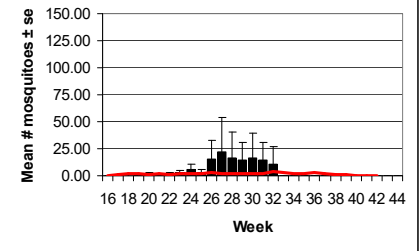
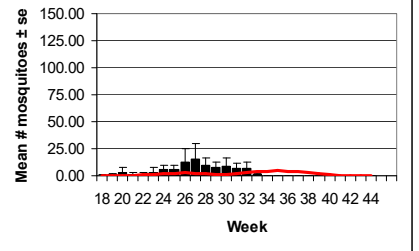
Ochlerotatus sollicitans



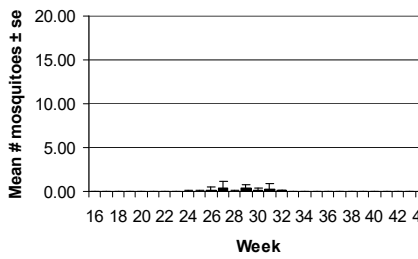
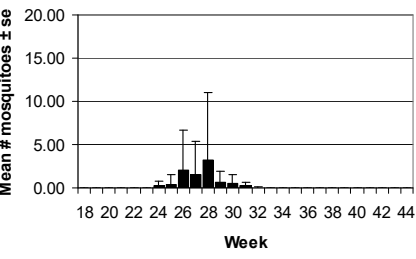
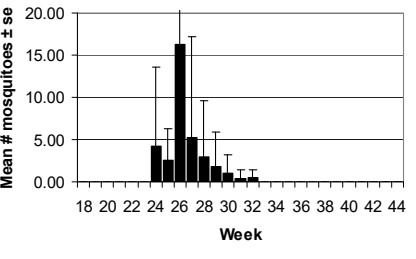
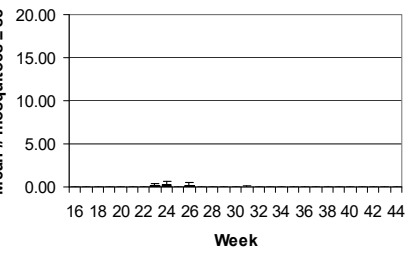
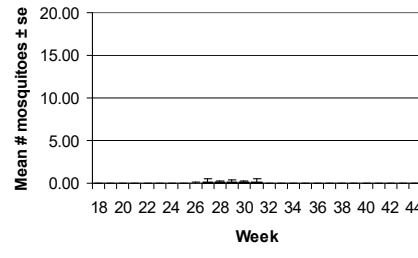
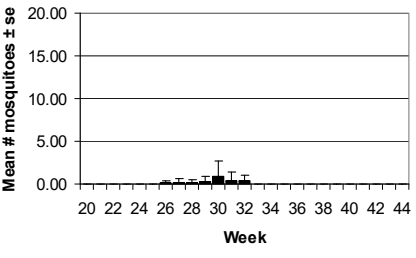
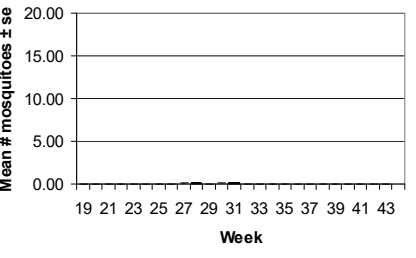
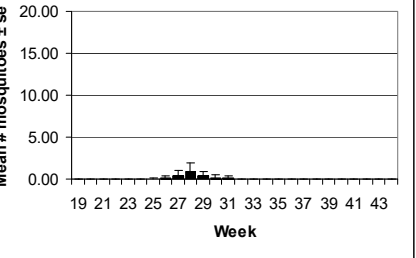
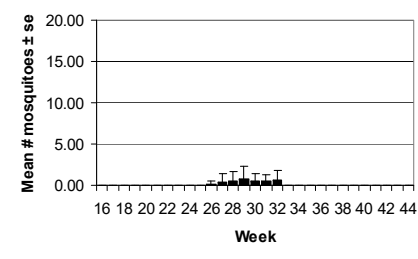
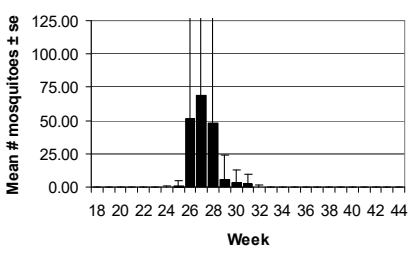
Aedes vexans - Note scale change in the Northwest Rural region.

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Aedes vexans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Aedes vexans</i> 	<i>Aedes vexans</i> 	<i>Ae. vexans</i> – Light trap data indicate that the recent rains NJ has been experiencing of late, has not produced a major brood of <i>Ae. vexans</i> to this point in time. Historical data from the Delaware River Basin and Suburban Corridor Regions show that increased numbers during the month of August is a common occurrence. In all probability, light trap numbers for this species will increase significantly in most regions over the next week or two as a result of flooding produced by repeated rains. <i>Aedes vexans</i> populations were exceptionally high in the Northwest Rural region in late June and early July with light traps averaging more than 100 mosquitoes per trap night	

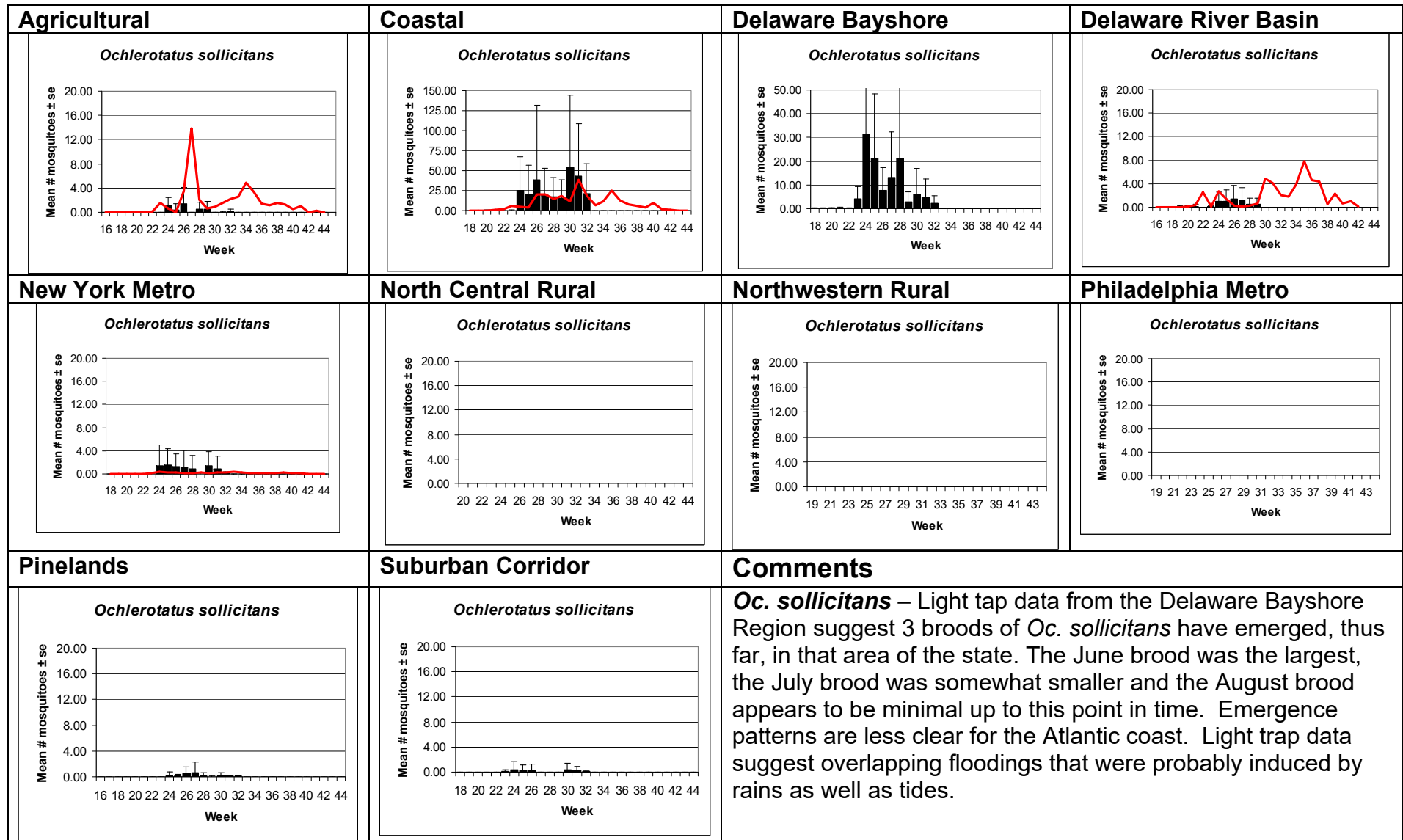
Culex Complex

Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
Culex Mix 	Culex Mix 	Culex Mix 	Culex Mix 
Pinelands	Suburban Corridor	Comments	
Culex Mix 	Culex Mix 	Culex Complex – <i>Culex</i> populations have risen somewhat in recent weeks with Delaware Bayshore region numbers showing the greatest increase. The historical data from the Agricultural Region depict the classic pattern for <i>Culex</i> over the course of a typical season with a steady increase in numbers during June, July and August until cool nights and onset of diapause reduce nighttime activity. This year's populations have not behaved typically to this point in the season. Light trap data from most regions show a late June peak with reduced numbers during most of July and August.	

Coquillettidia perturbans

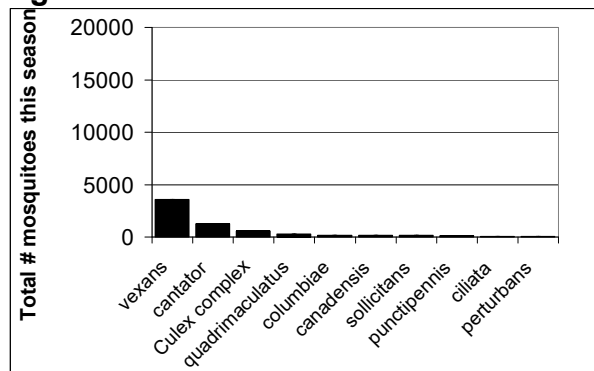
Agricultural	Coastal	Delaware Bayshore	Delaware River Basin
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 
New York Metro	North Central Rural	Northwestern Rural	Philadelphia Metro
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 
Pinelands	Suburban Corridor	Comments	
<i>Coquillettidia perturbans</i> 	<i>Coquillettidia perturbans</i> 	<i>Cq. perturbans</i> – No new information is evident in the <i>Cq. perturbans</i> data set. The species reached largest numbers in the Suburban Corridor Region in late June and early July. All populations have dwindled since that time suggesting that this year's population overwintered primarily as 3rd and 4th instar larvae	

***Ochlerotatus sollicitans* - Note scale change in the Coastal and Delaware Bayshore regions.**

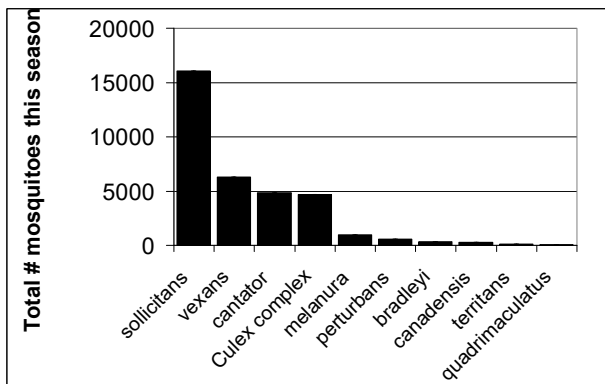


Top Ten species per Region

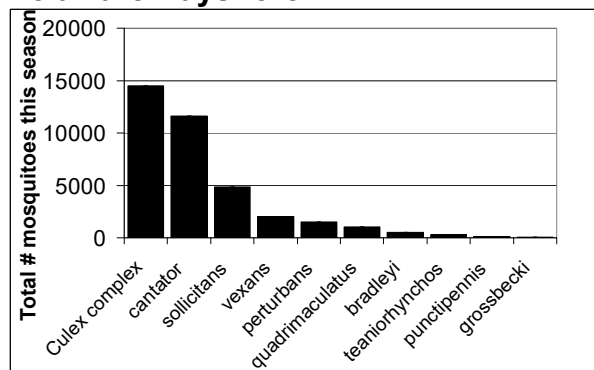
Agricultural



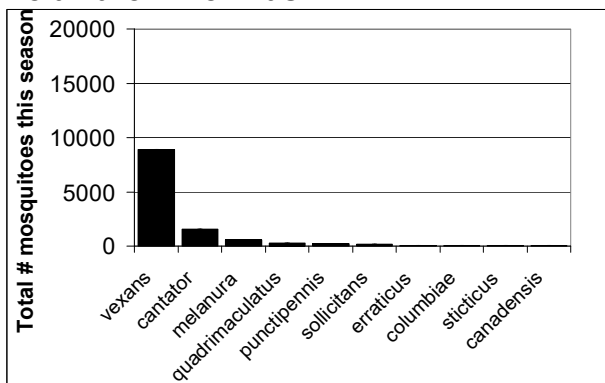
Coastal



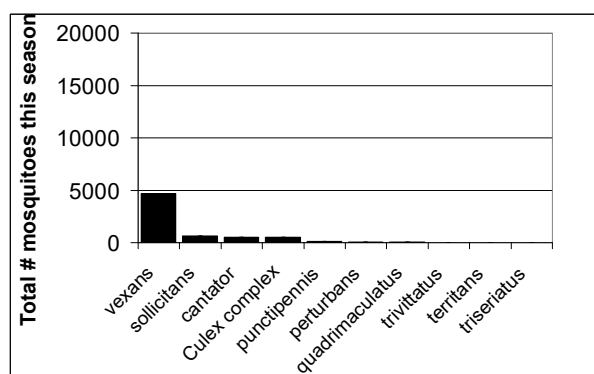
Delaware Bayshore



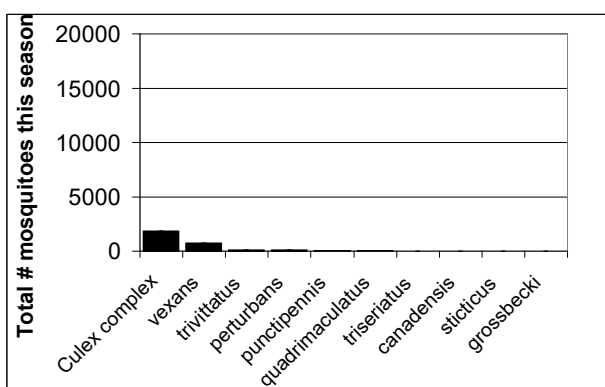
Delaware River Basin



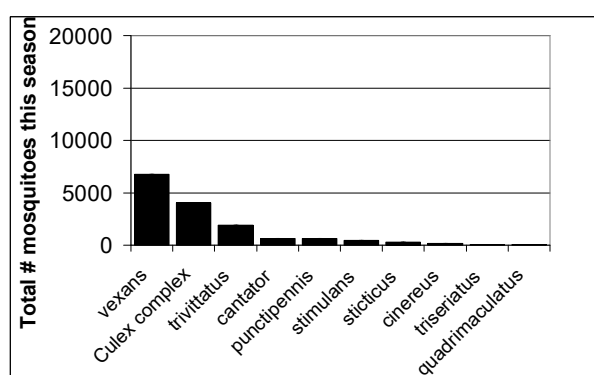
New York Metro



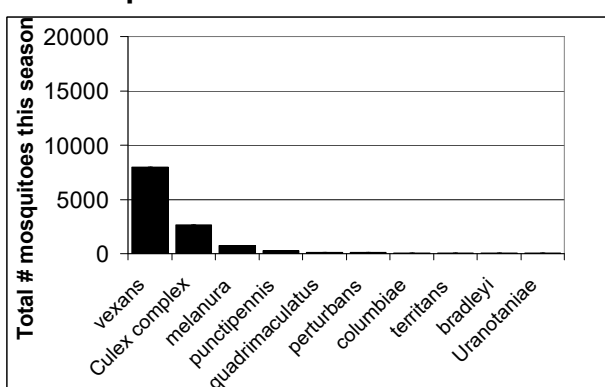
North Central Rural



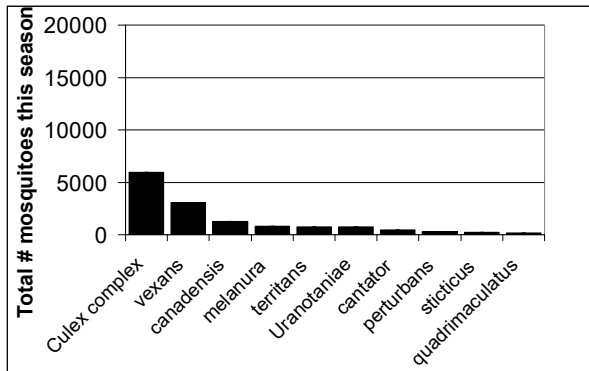
Northwestern Rural



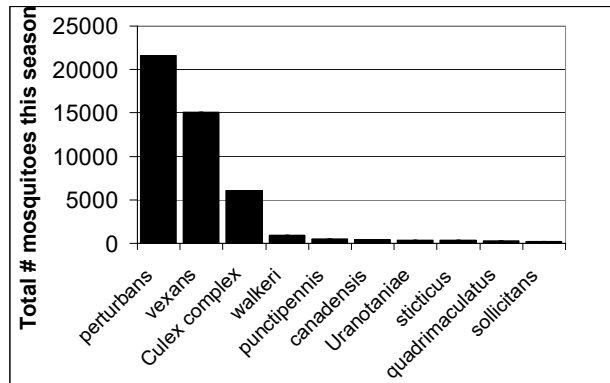
Philadelphia Metro



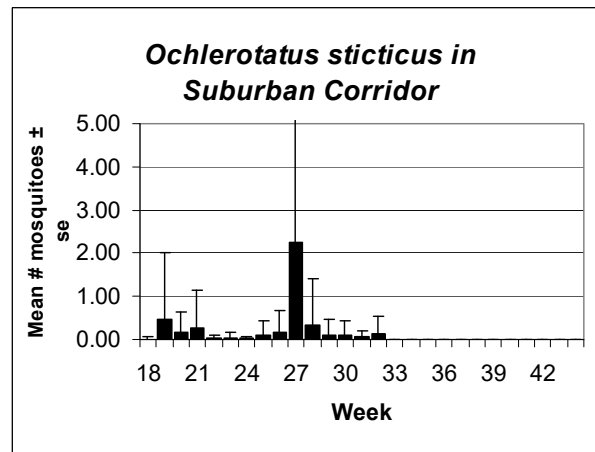
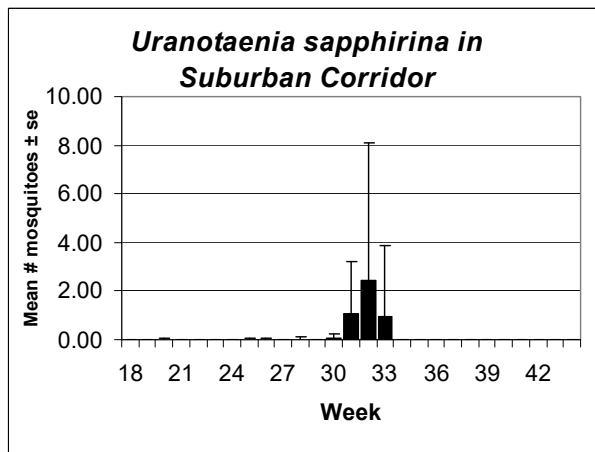
Pinelands



Suburban Corridor Note different scale for Suburban Corridor.



Other Species



Ur. Sapphirina – *Uranotaenia sapphirina* is a tiny non-pest species that is ornamented with bright sapphire blue scales. The species overwinters as an adult but rarely becomes evident in its freshwater swamp larval habitat until mid summer. This year's light trap records clearly show that trend with minimal specimens in light trap collections until the month of August. The species shares larval habitat with *Culex territans*, a frog feeding mosquito that does not bite humans and should not be controlled. Unfortunately, both of these non-pest species share habitat with *Anopheles quadrimaculatus*, a classical human biter that functioned as the North American vector of malaria until the disease was eradicated from the United States during the early 1950's.

Oc. sticticus – *Ochlerotatus sticticus* is an early season univoltine floodwater species that is an avid human biter and a pest that almost always requires control. In some years, the species reappears during the summer months giving the impression that it is multivoltine rather than univoltine as the literature suggests. This year's light trap data from the suburban corridor clearly show 2 population peaks. Most researchers believe that the apparent 2nd generation represents univoltine eggs that did not hatch on the first flooding.