

ARTHROPOD MONITORING:**Mosquito Studies - Greenwoods, Summer 1995**

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Expanded sampling of the area immediately adjacent to the large bog ("Cranberry Bog") for anthrophilic mosquitoes was the main focus of studies at Greenwoods. Initial plans to conduct biting/alighting sampling from a boat at selected sites around the margin of the impoundment were abandoned due to logistical difficulties. Emergent and submerged obstructions made it impossible to move about by boat at a rate that would allow for sampling at a sufficient number of sites within the hours of feeding activity. It was also evident that repeated sampling by boat would cause an unacceptable level of disruption to aquatic vegetation.

A series of eight sampling sites marked with bicolored streamers was established along the west side of the bog from the point of access to the main dam northward. A similar series was laid out along the east side with three sampling stations south of the one at the dock site and four stations north of it.

Biting/alighting collections were made by the author sitting for 20 minutes at each site with one forearm exposed. Mosquitoes alighting upon that arm or at other points on the body within reach of the other arm were collected by inverting a small killing vial over the mosquitoes.

Sampling series were begun at approximately first light and in late evening beginning at a time estimated to terminate the series when unaided visual observation became difficult. In most instances one side of the bog was sampled in the evening and the other side the following morning. (In some instances series were only partially completed because of unfavorable weather conditions.) During the intervening hours of darkness, collections were attempted using two CDC miniature light traps. One trap was located at a site on the west side of the bog and the other on the east side (See Table 1).

A larval survey of accessible sites was conducted on August 8. Low water level left the margin of bog largely exposed with very little shaded water bearing a heavy silt load. No larvae were collected.

RESULTS AND DISCUSSION

Few mosquitoes were collected during the summer of 1995 (see Table 2). Representatives of four species were collected in biting/alighting sampling. Three of these species, *Aedes punctor* (Kirby), *Aedes canadensis* (Theobald), and *Aedes vexans* (Meigen) are typical temporary pool mosquitoes. Larvae of the fourth *Anopheles punctipennis* (Say) are found in a variety of sites, but rarely in temporary pools. Means (1987) states that in New York they are found primarily in small permanent streams. Although collected only in light traps during 1995, *Coquillettidia perturbans* (Walker) feeds readily on humans, and its larval development is confined to permanent (or semipermanent) water where the larvae derive oxygen by means of inserting the siphon into the submerged stems of emergent vegetation. *Culiseta morsitans* (Theobald) is generally considered to have a life cycle similar to the univoltine "northern *Aedes*" type and is often found in association with such species. *Culiseta melanura* (Coquillett) is commonly found in sphagnum bogs and in a variety of similar situations combining well-shaded cold water in contact with soil (Means, 1987). *Culex restuans* Theobald larvae develop in a wide variety of habitats and might be expected to occur wherever shaded water persists for a week or more at suitable temperature.

As indicated in the preliminary survey (Butts, 1994), the bog and surrounding impoundment do not appear to support large populations of anthropophilic mosquitoes; however, those species collected which may be developing therein are of potential importance as vectors of viral encephalitides. *Cs. melanura* is an important enzootic vector of the virus of Eastern Equine Encephalitis. Both eastern and California encephalitides viruses have been isolated from *Cq. perturbans*. Both eastern and western encephalitides viruses have been isolated from *Cx. restuans*, a species whose anthropophilic tendencies have been variously averred and questioned.

REFERENCES CITED

- Butts, William L. 1994. Mosquito Studies. In 27th Annual Report. SUNY Oneonta Bio. Fld. Sta., SUNY Oneonta, NY (in press).
- Means, Robert S. 1987. Mosquitoes of New York, Part II. Genera of Culiidae other than *Aedes* occurring in New York. State Science Service, New York State Museum, Bull. 430b.

Table 1. Dates, times, and locations of sampling activities.

<u>Date</u>	<u>Side of Bog</u>	<u>Time</u>	<u>Light Trap Placement</u>
VII-25-1995	East	4:45-8:00 p.m.	East-Southside of dock West ca. 50 yds. north of dam
VII-26-1995	West	6:30 a.m. (3 stations only - rain)	
VIII-1-1995	East	5:00-8:03 p.m.	East - Dock site West ca. 250 yds. north of dam
VIII-2-1995	West	6:30-10:35 a.m.	
VIII-8-1995	West East	6:30-10:30 a.m. 4:30-7:45 p.m.	
VIII-15-1995	No series - Rain		East - Dock site West - First site north of dam
VIII-16-1995	East	6:45-9:40 a.m.	
VIII-23-1995	East	5:00-8:20 p.m.	East - Dock site West - North of 2nd site north of dam
VIII-24-1995	West	7:00-10:30 a.m.	
VIII-31-1995	East	4:35-6:20 p.m.	East - Dock site (4 sites only- West - 3rd site north of dam rain)
IX-1-1995	West	7:30-11:00 a.m.	
IX-14-1995	East	4:00-6:20 p.m.	East - Dock site (4 sites only- West - First service low temperature, strong wind)
IX-15-1995		No sampling - low temperature	

Table 2. Mosquitoes collected during 1995. Multiple specimens indicated by parenthetical numeral notation.

<u>Date</u>	<u>Collection Mode</u>	<u>Species</u>
VII-25-1995	Biting	<i>Aedes punctor</i> (Kirby) (3) <i>Aedes canadensis</i> (Theobald)
VII-26-1995	Light Trap-East	<i>Culiseta melanura</i> (Coquillett) <i>Coquillettidia perturbans</i> (Walker) (2) <i>Culex restuans</i> Theobald
	West	<i>Aedes canadensis</i> (Theobald)
VIII-2-1995	Biting	<i>Aedes vexans</i> (Meigen)
	Light Trap-East	<i>Coquillettidia perturbans</i> (Walker) (2) <i>Culiseta morsitans</i> (Theobald) (2) <i>Culiseta melanura</i> (Coquillett)
	West	<i>Culiseta melanura</i> (Coquillett)
IX-1-1995	Biting	<i>Anopheles punctipennis</i> (Say)