Mosquito Studies
Sampling for *Coquillettidia perturbans* (Walker) Larvae

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INTRODUCTION

A summary of changes in distribution and abundance of mosquitoes on the Upper site (Butts 2004) coupled with evidence of feeding by adult *Coquillettidia perturbans* (Walker) along the eastern side of the Cranberry Bog at Greenwoods (Butts 2003) prompted initiation of attempts to collect larval specimens of this species. Methods employed to collect mosquito larvae in surface waters are generally directed toward capture of free-swimming individuals and are of quite limited value in collecting *Cq. perturbans* larvae which attach by means of a highly modified respiratory siphon to underwater roots and stems of rooted aquatic plants in permanent or long duration semi-permanent waters. This species is widely distributed over the eastern United States from the Gulf of Mexico into southern Canada and faces varying environmental stresses that vary with both latitude and altitude of developmental sites. One of the more important stresses in Otsego and neighboring counties is water depth relative to the thickness of the ice during the winter. Margins of local lentic waters where emergent vegetation is present regularly freeze over in late fall with the depth reaching 8-10 inches by mid-winter, effectively limiting development of *Cq. perturbans* larvae to deeper water or at sites where continuous inflow lessens ice thickness.

On May 4, a survey made along the Seldom Seen Trail east of Cranberry Bog in Greenwoods indicated that the accessible margin did not meet the above criteria and that although the substrate was damp and soft, little or no standing water was present. The same relationship was seen in the pond north of the Zachow grange and in the north end of the large beaver pond to the south. A similar survey of impoundments on the Upper Site and the Thayer property was conducted with comparable results. (Several larvae were collected from a temporary pool along the yellow trail and returned to the Lakeside Laboratory and placed in emergence cages to procure adult specimens.) The periphery of Moe and New Ponds on the Upper Site did not appear to provide adequate depth where emergent vegetation exists. A cattail (*Typha* sp.) stand along the northeast margin of the flooded Area IV environs east of the confluence with the beaver pond surrounding the bog was found to be suitable for larval development, and attempts to collect specimens were conducted in this area.

MATERIALS AND METHODS

The basic premise set forth was to collect larvae of *Cq. perturbans* without removal of plants and with minimal damage and disruption of substrate.

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A hand-held bilge pump was modified by removal of the foot valve so as to allow for particulate detritus to be drawn in with the water column. The cattail (*Typha* sp.) plants were approached from the open water aspect of the impoundment accessed by means of a canoe.

The foot of the pump was thrust down along the underwater portions of the plant and a column of water drawn in. Contents of the pump were immediately transferred to a # 10 standard sieve, washed successively with pond water which drained into a #120 sieve placed in sequence. Contents of both sieves were sorted visually for larvae, the contents discarded and the sieves washed with pond water between samplings.

Three to five successive withdrawals were made at each site prior to proceeding to the next.

RESULTS

Five or more sites were sampled on each of the following dates: 3, 10, 14, 23, 26, 28 and 30 June; 8 and 12 July; 1 August.

No larvae were collected in any sampling. One small Tabanid larva was collected on June 28.

DISCUSSION

Negative results, along with records of small numbers of adult specimens collected by light traps, suggest that the area under study does not support a large population of *Cq .perturbans*. This mosquito is known to have a considerable flight range and may be entering this area from more distant development sites (Horsfall, 1955).

REFERENCES CITED

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