

ARTHROPOD MONITORING:

Mosquito Studies Site Records

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THAYER FARM

On May 8, 2004, several larvae were collected from a ground pool beside the yellow trail at a point east of the north end of the large pond. They were returned to the Lakeside Laboratory and placed in a holding container. By June 3, 2004, all individuals had emerged as adults or died. Five species of *Ochlerotatus provocans* (Walker) were reared.

This species was collected previously on the Upper Site, but has not been recorded in recent years. It has a typical "Northern Aedes" type of development and tends to appear quite early in the spring when compared to mosquitoes with similar life history.

UPPER SITE

The single specimen of *Anopheles walkeri* Theobald taken from the light trap collection on July 12, 2004 represents the initial collection of this species on any of the research sites studied. Subsequent collections on 3 and 18 August and on 29 September suggest strongly that a breeding population may become established on the Upper Site. This species has been noted to feed late in the day with peak activity often in the first hour of darkness. Alighting/biting collection was attempted at a point closely adjacent to the light trap set at the confluence of the Beaver Pond and Area IV environs. The author was seated with one forearm exposed with collections made by inverting a small vial charged with ethyl acetate over stationary adults. From 5:30 to 7:45 PM on 13 September 2004 a total of twelve approaches by mosquitoes were noted and six specimens of *Anopheles walkeri* were collected. Of particular interest is the fact that two of these do not appear to be as deeply colored and may be teneral specimens suggesting that they had emerged quite recently in quite close proximity to the source of collection.

Unlike the species of *Anopheles* previously collected in our research sites, *A. walkeri* overwinters in the egg stage and produces two recognizable types of eggs. The "summer egg" which can give rise to multiple generations during the year is smaller and exhibits physiological differences. The "winter egg" requires a period of exposure to low temperatures prior to hatching, a characteristic similar to the so-called "northern *Aedes*"

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type of development characteristic of most of our more commonly encountered anthropophilic species (Means 1987; Horsfall, 1955).

Anopheles walkeri is a widely distributed species, occurring from the Gulf of Mexico into southern Canada. Its life history can be of considerable importance in our area where the low availability of suitable hibernacula for adult females may be an important factor in limiting breeding populations of other *Anopheles* species. The potential for the “winter eggs” to be distributed on the legs of migrant waterfowl may also be a factor in favoring introduction of this species in discontinuous areas.

REFERENCES SITED

Horsfall, W.B. 1955. Mosquitoes: Their bionomics and relation to disease. Ronald Press, New York, NY P.166-168.

Means, R.G. 1979. Mosquitoes of New York. New York State Museum Bull. 430A,pp 82-83.