

ANOPHELINES IN BROOKLINE, MASSACHUSETTS

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Brookline is a semi-urban town 6.82 square miles in area located just outside the City of Boston. Its population of about 53,000 is for the most part concentrated in the northerly portion of the town leaving many acres of land that are rural in nature.

In a survey made of the mosquitoes of Brookline from July 15 to September 10, 1942, larvae of *Anopheles quadrimaculatus* were found in 8 breeding places, out of 110 locations from which specimens were taken for identification. An average of 3 collections per day was made by the regular Inspectors and Field Control workers of the Division of Fly and Mosquito Control, Brookline Board of Health, following an orderly inspection route of eight "mosquito districts" into which the town is arbitrarily divided.

By knowing what mosquitoes were present, and where, in 1939 (State Survey) and what mosquitoes were present, and where, in 1942 (Brookline Survey), it is possible to arrive at some important conclusions. As regards *Anopheles quadrimaculatus* in Brookline, it is apparent that this species of mosquito prefers clean clear water to polluted water. More striking is the fact that of the 8 breeding localities in which anophelenes were found in 1942, 5 or 70% bred anophelenes in 1939. The continued recurrence of anophelenes and more specifically of *A. quadrimaculatus* in the same breeding areas after a lapse of 3 years might be considered as an indication that hibernation occurs and that particular localities offer special advantages for such an occurrence.

The first specific breeding place was an ornamental garden fish pool in the rear of a large hotel located in the most densely populated section of the town. The hotel's garage adjacent to the pool was, before the war, more often than not, crowded with out-of-town cars, many bearing license plates of Tennessee, Mississippi and other malaria states. The significance of this fact is emphasized by an appreciation of the role of common carriers in relation to the spread of insect transmitted diseases. Some 600 yards from this pool was another breeding place, a pond, in which anophelenes bred early in the season before control measures were applied. However, when the pond's shore line and vegetation were altered and when such natural predators as turtles, toads, goldfish, and *Gambusia affinis* were introduced few culex and no anophelenes were found despite repeated personal inspections.

A third important breeding place was a group of large ornamental fish pools in the geographical center of the town. Originally swamp land, efforts were made to fill in the area but these and other clear water pools have persisted. Anophelenes were found in the vicinity in 1910 (Board of Health Report), in 1939 (State Survey) and again in 1942 (Brookline Survey).

As regards the remaining breeding places, all might be called private ornamental pools.

This study has shown the value of comparative surveys and has emphasized the need for control work in advance of the mosquito breeding season in particular localities known to favor anophelene breeding and hibernation. Further, the repeated occurrence of anophelene breeding in private fish ponds in urban Brookline supplements the findings of Perry W. Ruth as reported in *Mosquito News* for December 1942. This fact is worthy of particular consideration by all control workers in similar areas. There are 496 private ornamental pools listed in Brookline.