

MOSQUITOES COLLECTED IN THE VICINITY OF HAMILTON, ONTARIO DURING THE SUMMER OF 1948

W. W. JUDD¹

INTRODUCTION

During June, July and August of 1948 a collection of mosquitoes was made in the vicinity of Hamilton, Ontario. The work was sponsored by the Research Council of Ontario and the Board of Health of the City of Hamilton in connection with a survey of the wildlife of Wentworth County, Ontario conducted by the Department of Zoology of McMaster University under the direction of Professor A. E. Warren. Mr. A. Rayner, Research Assistant, made collections of larvae and pupae, reared adults from cultures of the young stages and prepared adults for identification. In a previous survey in 1944 (Twin, 1944a,b) the mosquito population had been investigated at Ancaster, Ontario (see map, fig. 1) and the following species had been collected: *Anopheles punctipennis* Say, *A. quadrimaculatus* Say, *Culex pipiens* L., *Aedes vexans* Meigen and *Uranotaenia sapphirina* (Osten Sacken).

METHODS

During the summer of 1948 collections of larvae and pupae were made from streams, ponds and temporary pools and from water in rain barrels, pails, etc., in the vicinity of the west end of Hamilton and nearby villages (fig. 1). The insects were scooped from the water with glass jars or with a small net of fine mesh. The larvae and pupae were reared in lots of five to ten in glass jars covered with mosquito netting. Each jar contained water and sediment from the body of water or container from which the larvae and pupae had been taken. When adults emerged from the water they were left for a few hours in the jar in order to allow the integument to harden and were then removed from the jar, killed with cyanide and pinned. In all, ten cultures of larvae and pupae were collected and adults were reared from them. The sources of the cultures were distributed as follows and are numbered to correspond with numbered localities on the map (fig. 1):

1. Shallow pond, in meadow surrounded by willow trees, containing clear

¹ Assistant Professor of Zoology, McMaster University.

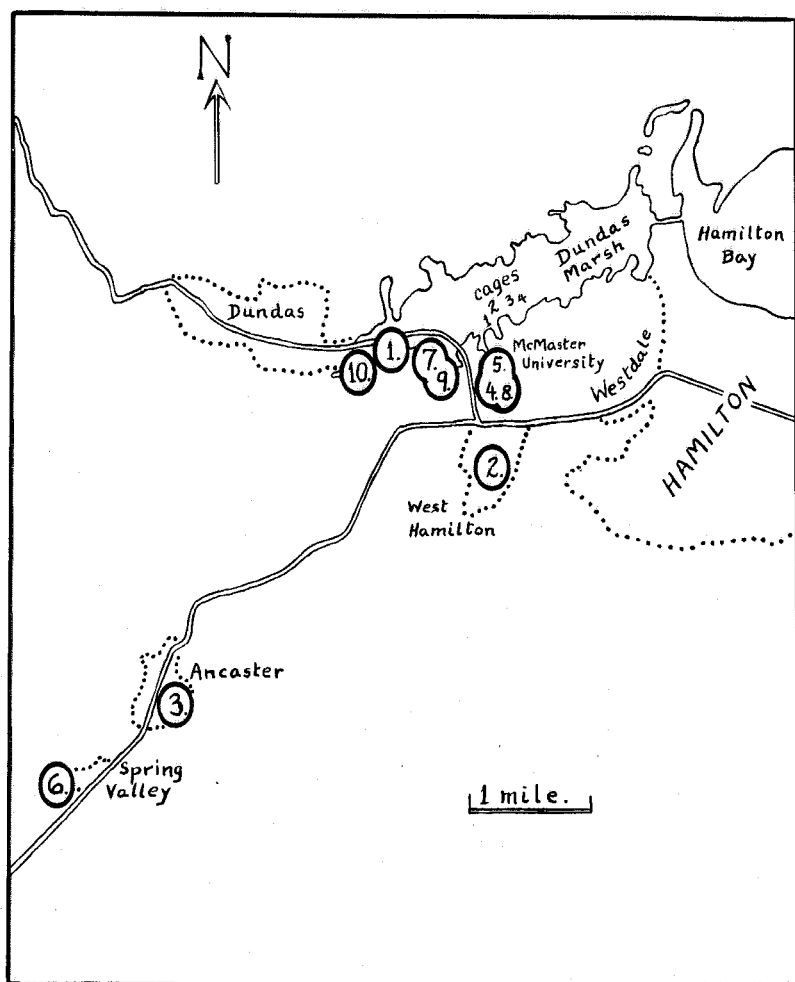


FIG. 1

water and decaying leaves, along highway between Hamilton and Dundas, June 1.

2. Rain barrel containing sediment of decaying leaves, West Hamilton, June 16.

3. Rain barrel, Ancaster, July 20.

4. Barrel, McMaster University campus, July 21.

5. Barrel, McMaster University campus, July 28.

6. Well, two feet deep, containing clear water and muddy sediment, Spring Valley, July 29.

7. Rain barrel, railway bridge between Hamilton and Dundas, Aug. 5.

8. Rain barrel, McMaster University campus, Aug. 10.

9. Rain barrel, railway bridge between Hamilton and Dundas, Aug. 13.

10. Pail of water near highway between Hamilton and Dundas, Sept. 1.

Adult mosquitoes were caught in flight as opportunity arose and were captured about windows and dwellings by the use of cyanide tubes. A few of these were taken in 1947. In addition, adults emerg-

ing from the waters of the Dundas Marsh were caught in cages (1,2,3,4) (fig. 1) on the marsh. These cages were set out over growths of aquatic and submerged vegetation in water of various depths, at points where they had been set out previously, in 1947, (Judd, 1949) to capture emerging insects. Each cage consisted of a wooden frame, covered with copper screening, 36 in. long, 32 in. wide and 36 in. tall, the bottom being open. Each cage was fixed firmly over four stakes, driven into the bottom of the marsh, so that the lower border was about 6 in. below the surface of the water. As insects emerged from the water they were trapped in the cage and were removed each day through a door along the side of the cage.

Pinned adults were identified by use of keys in Dyar (1921) and Matheson (1944). Representative specimens were sent to Professor R. H. Ozburn of the Ontario Agricultural College, Guelph and to Mr. G. E. Shewell of the Division of Entomology, Department of Agriculture, Ottawa, who kindly checked the identifications.

MOSQUITOES COLLECTED

Anopheles quadrimaculatus Say

One adult was captured in a window in Hamilton, Sept. 3, 1947 and one male and one female were trapped in cage 2 (water depth—23 in.) on the Dundas Marsh, Sept. 3, 1948.

Anopheles walkeri Theobald

One adult was captured from a window in Hamilton, June 12.

Anopheles occidentalis Dyar and Knab

One adult was captured in flight about the Dundas Marsh on March 21 and another was trapped in cage 3 (water depth—35 in.) on the Dundas Marsh, Aug. 14.

Aedes vexans Meigen

Three adults were captured in flight at Hamilton, May 26 and 16 were reared from culture 1 between June 2 and June 11.

Culex apicalis Adams

Two adults emerged from the Dundas Marsh, one in cage 4 (water depth—49

in.) on Aug. 3, the other in cage 1 (water depth—20 in.) on Aug. 10.

Culex restuans Theobald

This species occurred commonly in cultures, and the following series of adults were reared: 21 from culture 2 between June 16 and June 19; 5 from culture 3 on July 23; 9 from culture 4 between July 22 and July 26; 25 from culture 7 on July 9 and 10; 11 from culture 9 on Aug. 13; 1 from culture 10, Sept. 11.

Culex pipiens L.

Four adults were captured in flight in Hamilton on July 7 and one on Sept. 13. Three were trapped in cages on the Dundas Marsh, 2 in cage 3 (water depth—38 in.) on Aug. 3 and 1 in cage 1 (water depth—17 in.) on Aug. 14. The following series of adults were reared (in several cases in company with *C. restuans*) from cultures: 2 from culture 2 on June 18; 3 from culture 3 on July 23; 43 from culture 4 between July 22 and July 28; 16 from culture 5 on Aug. 5; 7 from culture 6 between July 29 and Aug. 5; 8 from culture 7 on Aug. 10; 5 from culture 8 on Aug. 12; 10 from culture 9 on Aug. 13.

Mansonia perturbans Walker

Several adults were captured in flight in Hamilton and Westdale between June 12 and July 19. Two adults emerged from the Dundas Marsh, one from cage 3 (water depth—38 in.) on Aug. 3 and one from cage 4 (water depth—46 in.) on Aug. 13.

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