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OCCURRENCE OF *ANOPHELES BARBERI* IN MASSACHUSETTS

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The distribution of *Anopheles barberi* Coquillett, a tree hole breeding mosquito, includes 30 states of the midwestern and eastern United States, the District of Columbia, and southern Ontario and Quebec (Darsie and Ward 1981, Zavortink 1969). The northeastern limit of this species' distribution in the United States is held to be eastern New York. This note reports the occurrence of *An. barberi* in Massachusetts, which is the first record of this species in Massachusetts and New England.

On August 13, 1982 at about 1400 hr a single female *An. barberi* was captured while it attempted to bite the author. The mosquito was collected on the University of Massachusetts campus in Amherst, Hampshire County. Subsequent collection attempts at this site yielded no more *An. barberi*. I have not previously encountered this species, despite recent extensive collections in western Massachusetts of mosquito larvae from tree holes and discarded tires, and adults from forested areas with treeholes.

This collection record brings to 46 the total number of mosquito species known to occur in Massachusetts (Darsie and Ward 1981). The specimen has been deposited in the University of Massachusetts insect museum.

I thank B. A. Harrison of the Walter Reed Biosystematics Unit, Smithsonian Institution for verifying the identification.

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TIME/CONCENTRATION IMPACT OF THE *SIMULIUM* LARVICIDE, ABATE, AND ITS RELEVANCE TO PRACTICAL CONTROL PROGRAMS

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INTRODUCTION

For the last seven years research has been conducted in this laboratory on the reactions of *Simulium* larvae, and select non-target macroinvertebrates to larvicides used practically or experimentally in the World Health Organization Onchocerciasis Control Program (OCP). In the absence of any corresponding laboratory phase of evaluation in that program, it was hoped that the tests with European stream fauna would establish some general principles of use to that project.

The laboratory technique of choice for *Simulium* larvae was the miniature simulated stream, well designed for assessing the effect of the short, 10–15 min, field application rates. A second technique, the rapid through-flow system, was used for studying a range of non-target macroinvertebrates, usually for standard exposures of 1 hr. This also provided an alternative method of testing *Simulium* larvae along with non-targets in the same vessel (Muirhead-Thomson 1981).

In the course of this investigation two findings provide an essential introduction to the present communication. (1) The first series of experiments using Abate® (temephos) [Procida 200 EC (emulsifiable