

**MOSQUITO LIFE: THE HABITS AND LIFE
CYCLES OF THE KNOWN MOSQUITOES
OF THE UNITED STATES;
METHODS FOR THEIR CONTROL; AND
KEYS FOR EASY IDENTIFICATION OF THE
SPECIES IN THEIR VARIOUS STAGED**

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Mosquito Life: The Habits and Life Cycles of the Known Mosquitoes of the United States;
Methods for Their Control; And Keys for Easy Identification of the Species in Their Various
Staged by Evelyn Groesbeeck Mitchell

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EVELYN GROESBEECK MITCHELL

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Photograph by H. R. Turhune.

A Mosquito-Breeding Pool.

MOSQUITO LIFE

THE HABITS AND LIFE CYCLES OF THE KNOWN MOSQUITOES OF THE UNITED STATES; METHODS FOR THEIR CONTROL; AND KEYS FOR EASY IDENTIFICATION OF THE SPECIES IN THEIR VARIOUS STAGES. AN ACCOUNT BASED ON THE INVESTIGATIONS OF THE LATE JAMES WILLIAM DUPREE, M.D., SURGEON-GENERAL OF LOUISIANA, AND UPON ORIGINAL OBSERVATIONS BY THE WRITER.

BY



EVELYN GROESBEECK MITCHELL, A.B., M.S.

ILLUSTRATED

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IN MEMORY OF
JAMES WILLIAM DUPREE, M.D.

PREFACE

WITHIN recent years, so much has been written about mosquitoes, and scattered through such a vast number of books and periodicals, that the average student now sorely feels the need of a single work, containing, in a condensed form, the essential facts so far made known in regard to the different phases of this important and highly interesting subject. It was to meet the demands of the constantly increasing army of both professional and lay workers that the present volume was designed. While aiming to keep it within reasonable bounds, that it might be easily used alike in the field and in the laboratory, still it is believed that no portion of the work has been slighted, or fundamental information omitted, in the endeavour to carry this desire into effect.

It has been the constant aim of the author to give, in as succinct a form as possible, both what has been set forth by others and what new facts have been ascertained by Dr. Dupree and herself regarding the lives of these pestiferous creatures in this country—how and where they breed, how they bite, how they transmit disease, how long and on what they live, how they may be identified in their various stages, and finally, but not the least important how they may be locally controlled. The au-

thor has endeavoured to present this matter in terms intelligible to the average reader, omitting technical expressions, as far as possible, and explaining them fully where their use becomes necessary.

The illustrations are chiefly from original drawings by the author, made for Dr. Dupree: a few exceptions are noted in their proper place. The drawings of the larval mouth parts are from cast skins, the dissections being also by the author. Particular care has been taken in the mapping of the larval hairs, as much use is here made of these in identification.

I here take pleasure in expressing, both in my own name and that of Dr. Dupree, my appreciation of the kindness of all those who have in any way aided me to bring out this work. Especially do I wish to thank Dr. John B. Smith, State Entomologist of New Jersey, and Dr. E. P. Felt, State Entomologist of New York, for permission to revise my tables from their very comprehensive collections of mosquitoes, for valuable criticism and suggestions, and for the loan of photographs. Also I may here properly extend my thanks to Mr. D. W. Coquillett, of the United States Department of Agriculture, for many helpful hints and bits of information given me at the time when I was engaged in preparing my thesis; and to Professor H. A. Morgan, State Entomologist of Tennessee, for timely advice in regard to my manuscript.

E. G. M.

WASHINGTON, D. C., 1907.

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