

**DRAGON FLIES VS. MOSQUITOES. CAN
THE MOSQUITO PEST BE MITIGATED?
STUDIES IN THE LIFE HISTORY OF
IRRITATING INSECTS, THEIR NATURAL
ENEMIES, AND ARTIFICIAL CHECKS**

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Dragon Flies vs. Mosquitoes. Can the Mosquito Pest Be Mitigated? Studies in the Life History of Irritating Insects, Their Natural Enemies, and Artificial Checks by Various

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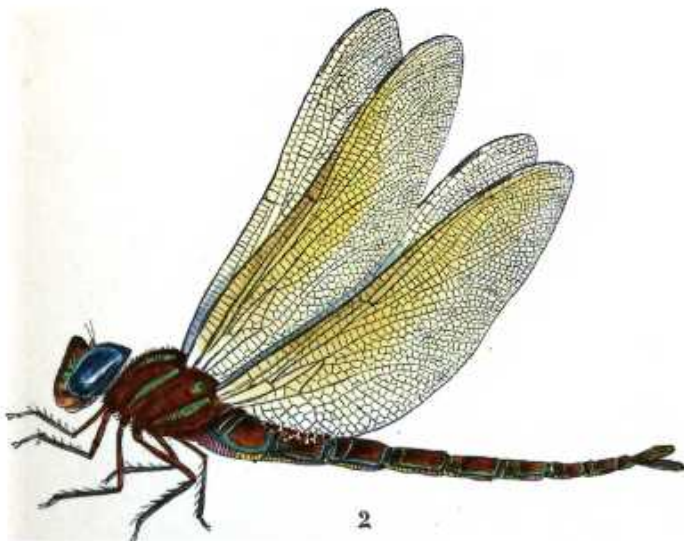
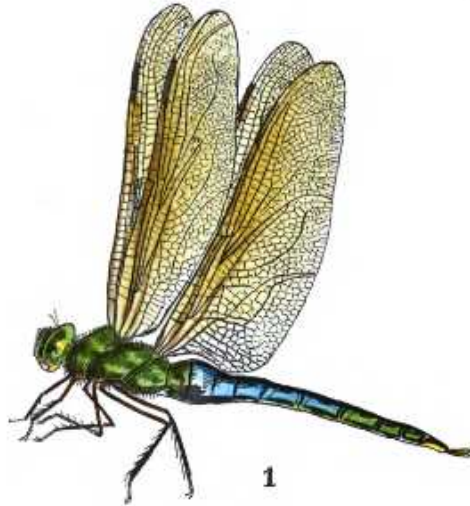
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PLATE I.



MOSQUITO HAWKS, OR DRAGON FLIES.

1. ANAX JUNIUS. 2. ÆSCHNA HEROS.

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DRAGON FLIES vs. MOSQUITOES.

CAN THE MOSQUITO PEST BE MITIGATED?

STUDIES IN THE LIFE HISTORY OF IRRITATING INSECTS,
THEIR NATURAL ENEMIES, AND ARTIFICIAL CHECKS,

BY WORKING ENTOMOLOGISTS.

WITH AN INTRODUCTION BY

ROBERT H. LAMBORN, PH. D.

NEW YORK:

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1890.

PREFACE.

IN the early summer of 1889 a circular letter was issued to "The Working Entomologists of the Country," offering prizes for essays containing original investigations regarding methods of destroying the mosquito and the house fly.

The object of this effort was to bring about an intelligent discussion of the question, what natural enemies of these irritating insects may be easily and efficiently arrayed against them.

The voracious and harmless dragon fly, of which our country supplies so many beautiful varieties, was especially designated as possessing qualities that made it a promising subject for careful investigation.

The plan of destruction thus sought for is that so commonly observed in operation upon a grand scale in Nature, where individual species and whole families are swept out of existence through its operation.

The questions formulated in the circular letter were widely discussed. Newspapers and other periodicals treated them from a hundred standpoints—the grave—the gay—the lively—the serene—a volume could be filled with articles relating to the subject published in this country and in Europe.

The most valuable results were, as expected, those submitted by the scientific experts especially appealed to. The essays that they presented are the outgrowth of long years

spent in rearing insects, studying their transformations and habits, and of extensive special reading.

These essays were found so full of valuable scientific and popular information that the recommendation of the distinguished judges acting under the terms of the circular letter, to place them in a printed form before the public, has here been complied with. An article contributed by Dr. McCook to the "North American Review" is reproduced with especial view to his observations on mosquito-catching spiders. Captain Macauley of the United States Army furnishes an interesting chapter of his experience among the dragon flies and mosquitoes of the Upper Missouri.

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