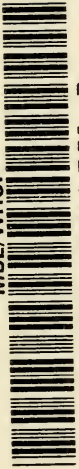




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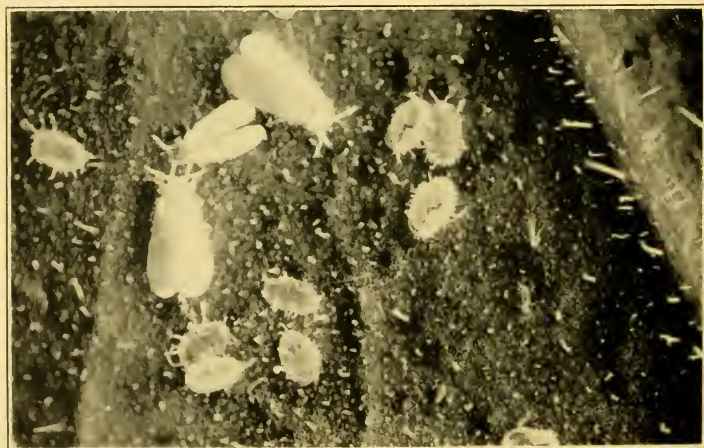


PLATE I



A. STICK-INSECT (*Carausius morosus*), JAVA, moulting while hanging from  
Oak-twig. Half size.

[J. H. Watson, photo.]



B. SNOWY-FLY (*Aleyrodes vaporarum*) ON LEAF.  $\times 10$ .  
Frontispiece.]

[H. Britten, photo.]



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2

# THE BIOLOGY OF INSECTS

BY

GEORGE H. CARPENTER, D.Sc.

KEEPER OF THE MANCHESTER MUSEUM, UNIVERSITY OF MANCHESTER  
FORMERLY PROFESSOR OF ZOOLOGY IN THE ROYAL COLLEGE OF SCIENCE, DUBLIN

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TO  
MY WIFE  
AFTER THIRTY-SIX YEARS OF  
COMRADESHIP



## PREFACE

THE writer on Insects in this series of volumes, setting forth various groups of creatures from the biological point of view, has the advantage of his subject in a class of animals comprising the largest number of diverse forms whence he may choose examples of life relations. He has also the disadvantage which follows inevitably from this richness of the available material ; many highly interesting features of insect life must be neglected or treated inadequately if the book is to be kept within reasonable compass. He must therefore acknowledge himself chargeable with the offence of omitting many subjects which might be expected to appear in a survey of the Biology of Insects.

In this volume structural features are described only so far as seems necessary for the understanding of function and behaviour, while questions of systematic entomology are discussed only as they bear on problems of ecology and evolution. The author's indebtedness to those who have studied and written upon the various aspects of Insect Biology is apparent, and, he trusts, duly acknowledged, both in the text and in the descriptions of those photographs and figures which have been borrowed or copied for illustration. He desires to express gratefully his appreciation of the help and encouragement accorded by his friend, Professor J. Arthur Thomson, the editor of this series, whose suggestions and criticisms have contributed

largely to whatever value the book may have. It is a pleasure to acknowledge also the willing help of two friendly colleagues in the work of illustration: Miss R. A. Barr with her careful draughtsmanship and Mr. H. Britten with his taste and skill in nature-photography. Finally hearty thanks are due to the publishers for their patience and consideration through the prolonged fulfilment of the author's promise to take this part in their scientific enterprise.

G. H. C.

THE UNIVERSITY,  
MANCHESTER,  
*October, 1927.*

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