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978-0-521-41758-7 - The Ecology of Insect Overwintering

S. R. Leather, K. F. A. Walters and J. S. Bale

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Insect overwintering is a fascinating process involving many physiological, epidemiological, biochemical and behavioural changes. The study of the overwintering process can offer an insight into the development of insects, as well as help us to predict the patterns of disease epidemic and crop destruction caused by some species.

This book provides a comprehensive account of the various forms of insect overwintering that highlights important areas of economic interest. It will be essential reading for advanced students and researchers in the fields of zoology, agriculture, forestry and ecology.

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THE ECOLOGY OF INSECT OVERWINTERING

S. R. LEATHER

*Lecturer in Pest Management,
Department of Biology,
Imperial College*

K. F. A. WALTERS

*Principal Scientific Officer,
Central Science Laboratory, MAFF,
Harpenden*

and

J. S. BALE

*Professor of Environmental Biology,
Birmingham University*



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Foreword

The study of insect overwintering has largely concentrated on a few well defined areas of study. Whether this has been the result of the understandable reluctance of entomologists to expose themselves to the rigours of the great outdoors during what is one of the more taxing times of the year or to the fact that the importance of the overwintering stage in relation to the population dynamics of a particular species has been underestimated, is a moot point.

Be that as it may, it is a fact that a large proportion of a temperate or polar insect's life cycle is spent in the overwintering stage and recent work within allied groups, e.g. red spider mite, and within insect groups such as the Aphidoidea, has highlighted the advantages, in terms of control and prediction, to be gained from a detailed knowledge of insect overwintering habits. The contents in each chapter of this book have been largely determined by the availability of published work and by what we have considered to be the more important aspects of this subject. However, we have included previously unpublished material in an attempt to make this a comprehensive and enlightening addition to the field. The overwintering habits of some insect groups have been largely ignored by the entomological world and we have tried, where possible, to point out areas where future research would be profitable. One of the great problems that has hampered the study of overwintering in insects has been as Danks (1978) points out, the tendency of researchers to consider ecology and physiology as two separate and unrelated disciplines. We have tried wherever possible to adopt an ecological and physiological approach to the problem and feel that by so doing, we have thrown new light on this subject.

We hope that this book, by emphasising the importance of insect overwintering, will induce other entomologists to pay more attention

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to this fascinating phase of the insect life cycle. We have thus aimed the contents of the book at postgraduate entomologists in all stages of their careers. However, we hope that this will not deter the more advanced undergraduate from finding something of interest within these pages.

*S. R. Leather
K. F. A. Walters
J. S. Bale
1992*