

Terrestrial Slugs

Terrestrial Slugs

Biology, ecology and control

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Preface

In recent years slugs have become increasingly important, partly because several species are agricultural and horticultural pests and partly because they have proved to be useful experimental animals, particularly in the field of neurophysiology. Most of the early works which included slugs were essentially taxonomic but the book by Taylor (1902–1907) contained a great deal of biological information about slugs, some of which is still relevant today. The publication of the book by Runham and Hunter (1970) represented a milestone in slug research, providing a comprehensive survey of current knowledge about slugs. The book by Godan (1983) on snails and slugs was mainly concerned with the economic importance of these animals.

The purpose of the present book is to present a review of current knowledge of the biology and ecology of slugs, together with their status and control as pests. Although relatively little is known about the biology and ecology of tropical slugs and most information is taken from work on European slugs, the European pest species have become widely distributed throughout temperate regions and this book should be of interest world wide. It is written as a source of information for people seeking to control slug pests and, also, for those wishing to use slugs for research or teaching purposes. The book is intended particularly to provide a starting point for those beginning research on slugs and an extensive bibliography has been provided.

The classification of slugs has been dealt with elsewhere and research of a purely systematic nature is not covered by this book unless it is of wider interest, for example the use of new techniques in taxonomy. Slug nomenclature in Britain has changed rapidly over the past few decades owing to the separation of closely related species, to the rediscovery of species that had been overlooked, or to the discovery of recently introduced slugs. I have adopted several conventions throughout this book. Slugs of the *Arion ater*/*Arion rufus* complex are referred to throughout as *Arion ater* following current usage in books such as Kerney and Cameron (1979) and Kerney *et al.* (1983). *Deroceras (Agriolimax) reticulatum* and *Deroceras (Agriolimax) agreste* were regarded as synonymous for many years in Britain and I have used *D. reticulatum* in place of *D. agreste* where the two species have obviously been confused (e.g. in Carrick, 1938). Where there is doubt I have retained the original nomenclature and I have not attempted to change these

names where information is taken from non-British sources. Since individual species of the *Arion circumscriptus*/*Arion fasciatus* agg. and the *Arion hortensis* agg. have been recorded separately only recently by most authors, the names *A. fasciatus*, *A. circumscriptus* and *A. hortensis* refer to the species aggregate unless indicated by the use of the term *sensu stricto* (*s.s.*). Slugs found in the Republic of Ireland are included with those found in the British Isles for the purposes of this book.

I should like to express my gratitude to Maureen South who has prepared the diagrams. Some diagrams are based on original material (slides, dissections, etc.) while others have been compiled from information drawn from numerous sources. Figure 3.3 is reproduced by permission of Harper Collins Publishers from the book *Terrestrial Slugs* by N.W. Runham and P.J. Hunter (1970). Figures 5.3–5.6 are reproduced by permission of the Royal Society of Edinburgh. Figures 8.1–8.4 are reproduced by permission of the Malacological Society of London. Figures 10.1 and 10.2 are reproduced by courtesy of the British Crop Protection Council.

I should also like to acknowledge the help and advice I have received over many years from colleagues in the former Department of Biological Sciences at the City of London Polytechnic and from members of the library staff at that Polytechnic. Dr Peter Mordan of the British Museum (Natural History) has also provided valuable advice on a number of occasions. My thanks are also due to Robert South who has provided assistance with the photography.

Finally, it would have been difficult to complete this book without the continued help and support of my wife, who provided much help in the preparation of the final manuscript.