

The third edition of this basic textbook in parasitology has been entirely rewritten incorporating the spectacular advances made in biological sciences within recent years. The author presents students and research workers with a broad multi-disciplined approach to the morphology, ultrastructure, speciation, life cycles, biochemistry, *in vitro* culture and immunology of parasites. Special attention is paid to those species used as models for teaching and research as well as the major human and animal parasites. The author introduces the basics of the subject for new students as well as bringing in more advanced topics of interest to senior students and researchers.

The text is illustrated with a large number of figures, and has many tables and up-to-date reference lists.

The book will appeal to all students with an interest in parasitology as well as being of interest to research workers in the field.

Introduction to animal parasitology

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J. D. Smyth
Frontmatter
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Introduction to animal parasitology

THIRD EDITION



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Emeritus Professor of Parasitology, University of London

With a chapter on Immunoparasitology by **PROFESSOR D. WAKELIN**

University of Nottingham



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**This book is affectionately dedicated to my students, whose interest
and curiosity largely stimulated its production**

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Preface to third edition

Since the Second Edition of this text was published, the spectacular advances which have been made in the fields of ultrastructure, speciation, biochemistry, molecular biology, genetics, epidemiology, neurobiology and immunology have made a major impact on all aspects of parasitology. For example, the concept of species has been revolutionised by the application of isoelectric focusing and antigenic analysis and many well-known species have been shown not to be simple, rigid species but to consist of a 'species complex' showing intra-specific variations in their metabolism or antigenic make-up: differences not revealed by simple morphological descriptions.

The text has been largely rewritten to incorporate these new concepts and extensive reference lists, covering the world literature (many in 1991–2) are provided, as in previous editions. In addition to numerous new tables, some 70 new text figures have been added and many of the older figures in the earlier edition have been updated and redrawn.

The general format of the Second Edition has been retained; as before, special attention has been paid to those organisms which are widely used for experimental models (especially for human parasites) but are often given little attention in parasitological texts. Most of the important parasites of man are also considered but no attempt is made to cover the whole field of human or animal parasitology. Morphological descriptions in general have been kept brief, systematics treated broadly

and pathological effects only dealt with when they are related to some particular point of physiological interest. Parasitic Mollusca or Crustacea have been omitted, as such forms are not sufficiently common to fall within the scope of this book. Thus the treatment is confined to those groups – protozoa, platyhelminths, nematodes and acanthocephalans – which have been successful in invading the tissues or body fluids of animals. Arthropod vectors and so-called ectoparasites, such as fleas or lice, are also not covered here, since the morphology and biology of these groups have been adequately treated in a number of excellent textbooks on medical or veterinary entomology.

Special attention has been paid to presenting diagrams showing the life cycles of parasites in detail, relating these, where possible, to the properties of the environment. The preparation and presentation of such diagrams often helps to focus attention on some overlooked aspects of the life cycle and, in particular, draws attention to gaps in our knowledge about that particular parasite. As well as being the causative organisms of major human and animal diseases, parasites often serve as elegant models for the study of fundamental biological phenomena such as enzyme dynamics, membrane transport, and differentiation (especially sexual differentiation), common to many other biological fields; attention is especially drawn to those parasites which are valuable in this respect.

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