

# **Feeding, Digestion and Assimilation in Animals**

## Macmillan Studies in Comparative Zoology

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# **Feeding, Digestion and Assimilation in Animals**

**J. B. JENNINGS**

*Reader in Invertebrate Zoology,  
The University of Leeds*

**MACMILLAN EDUCATION**

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## Preface

THIS book is intended as a general introduction to the study of animal nutrition. The subject is approached from a zoological rather than a biochemical viewpoint and consequently as much attention is given to the various structures and organs concerned with the capture, ingestion, digestion and assimilation of food by animals as there is to the more chemical aspects of these processes.

Wherever possible specific examples are used to illustrate important points in the text and these have been carefully selected to ensure that the majority will be familiar to any reader with an elementary knowledge of Zoology. Chapter 1 deals with the essential components of the animal's diet, their properties and the uses to which they are put. Chapters 2 and 3 review the various means used by animals to obtain food from their environment, and the different types of feeding mechanisms described are illustrated by examples drawn from the major phyla of the animal kingdom. Chapter 4 describes the variety of alimentary systems found in animals, and Chapter 5 deals with the fundamental features of the process of digestion, the properties of the digestive enzymes and the sequence in which these operate. Finally, Chapter 6 describes in detail feeding and digestion in a restricted number of animals, which includes representatives from the Protozoa, the acoelomate phyla, the Arthropoda, the fish and the mammals.

A number of the text figures are reproduced from other works and I wish to thank the W. B. Saunders Company, the McGraw-Hill Book Co. Inc., Academic Press Inc., Methuen & Co. Ltd., J. M. Dent & Sons Ltd., Macmillan & Co. Ltd., Oxford University Press, Robert Hale Ltd., Cambridge University Press and the Editorial Boards of the *Biological Bulletin* and the *Journal of*

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*June 1964*

J. B. J.

## **Preface to the Second Edition**

IN this second edition much of the original text dealing with the functional morphology of animal feeding mechanisms and alimentary systems, the chemical nature of foodstuffs and basic digestive physiology, remains unchanged. Many new line drawings and photographs have been added, however, in the hope that they will convey more information than those they replace and illustrate the text more effectively. Other additions include new material on the digestive physiology of lower invertebrates and the mammal, and an outline classification of the animal kingdom. The latter shows the systematic position of those orders and genera cited in the text in connection with some particular aspect of a feeding mechanism, alimentary system or digestive process and is included to demonstrate the relationships of the various types of animals cited and to facilitate, therefore, the comparative study of animal nutrition which is the central theme of the book.

*April 1972*

J. B. J.

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