

## BOOK REVIEW

*Studies in Biology #60-75*, Published by Edward Arnold, Ltd.,  
London

It is not unusual in the teaching of physiology courses to assign students reading on special topics. The purpose of such assignments is more often to illustrate particular principles of physiology in a well-defined system, than it is to convey all the information available about the particular plant or animal.

A particularly fine series of short monographs on special topics dealing with biological subjects is published by Edward Arnold, Ltd. in London. They are available in the USA through Crone Russak and Company, 347 Madison Avenue, New York, New York 10017 for prices of \$3.50 to \$3.95. Most of them are sixty to seventy pages in length and are well and generously illustrated with black and white photographs and line diagrams.

I have examined the following volumes, published as numbers 60 through 75 of the "Studies in Biology" series:

Title	Author	Number
THE SECRETION OF MILK	Ben Mepham	60
BIOLOGY OF EUCALYPTS	L.D. Pryor	61
MARINE ZOOPLANKTON	John H. Wickstead	62
HOMEOSTASIS	Richard N. Hardy	63
DISEASES IN CROPS	B.E.J. Wheeler	64
PLANT TISSUE CULTURE	Dennis N. Butcher & David S. Ingram	65
LICHENS AS POLLUTION MONITORS	David L. Hawksworth & Francis Rose	66
ANIMAL ASYMMETRY	A.C. Neville	67
PHYTOCHROME & PLANT GROWTH	Richard E. Kendrick & Barry Frankland	68
GENETICS AND ADAPTATION	E.B. Ford	69
POPULATION CYTOGENETICS	Bernard John	70
A BIOLOGY OF LOCUSTS	R.F. Chapman	71
THE DYNAMICS OF COMPETITION & PREDATION	Michael P. Hassell	72
MAMMALIAN ODOURS & PHEROMONES	D. Michael Stoddart	73
DECOMPOSITION	C.F. Mason	74
VIVIPARITY	Peter J. Hogarth	75

The level of discussion of scientific material is reasonably sophisticated; many of the monographs would be suitable for use in first courses in organismic biology, physiology,

genetics or plant physiology. The volumes especially useful to instructors in animal physiology are Mepham's book on "Secretion of Milk", Hardy's on "Homeostasis", Stoddart's on "Mammalian Odours and Pheromones" and Hogarth's on "Viviparity". I found the book on lactation particularly well written.

Mepham treats milk secretion as a special example of all glandular secretions at the same time, he places the process in the general context of events during reproduction which are under hormonal and neural control. A brief review of protein and lactose synthesis is offered along with a description of the changes in cell structure and function that occur in mammary gland cells during lactation. Changes in water and ion balance which occur when animals lactate are explored. Experiments with animals from which endocrine and neuroendocrine tissues and glands have been removed are cited as well as experiments with isolated and perfused mammary glands. The exposition is clear; the story develops logically and in an interesting way.

The student is lead to a rather complete understanding of lactation. In addition, he or she will have learned about some experimental methods in organ physiology, biochemistry, membrane physiology, neuroendocrinology and even some animal behavior. The volumes on Homeostasis, Viviparity and Pheromones are equally interesting and will challenge students in secondary or elementary physiology courses to read further in the field.

For botanists and plant physiologists, *The Biology of the Eucalypts* illustrates the special adaptations of structure and physiology to habitats which are very dry for much of the year. The role of fire in the evolution of this group, and easy hybridization of some species and the existence of barriers to breeding in others are discussed. This volume along with *Diseases in Crops*, *Plant Tissue Culture*, and *Phytochromes and Plant Growth* offer enrichment for courses in botanical sciences. Two related monographs, *Lichens as Pollution Monitors* and *Decomposition* will be useful in botany courses and in courses dealing with environmental sciences.

Animal behaviorists will find Hassel's *The Dynamics of Competition and Predation* and *Mammalian Odours and Pheromones* by Stoddart most helpful to their students. They may also wish to use *Viviparity* by Hogarth and the *Biology of Locusts* by Chapman. Ford's *Genetics and Adaptation* and *Population Cytogenetics* by Bernard John also deserve mention as excellent supplementary material for genetics courses or courses on cells and organisms.

Each of these monographs is written by an authority noted for his research in the particular area treated in his booklet. The editors have encouraged a lively presentation. Because each volume is sharply focused on a single topic, discussion does not wander, nor will the reader's attention. I highly recommend the use of these monographs.

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