

*The Endocrine Function of the Human Ovary*

Edited by V. H. T. James, M. Serio and C. Giusti  
Academic Press; London, 1976  
ix + 519 pages. £ 11.50

This substantial volume contains thirty-nine papers, proceedings of a course organized by the School of Postgraduate Endocrinology in Florence. As with two previous companion books on 'The Endocrine Functions of the Human Testis' there is a heavy emphasis on clinical disorders but, to be fair, there is a great deal on more basic mechanisms.

The outstanding feature of the book is the breadth of topics covered. All the essentials and many of the fashionable topics are here — steroidogenesis, control of gonadotrophin secretion, cyclic AMP, mechanisms of hormone action, receptors, prostaglandins — plus a number of less worked but highly interesting subjects, such as the role of blood flow in regulating ovarian function. Clinical contributions cover puberty, hypogonadism, the menopause, amenorrhoea, anorexia nervosa, polycystic ovaries, virilization and hirsutism. The overall standard of presentation is high, with clear writing, good illustrations and original data.

Most authors have supplied detailed reference lists and there is an excellent index. For a book of this size there are commendably few of those skeletal contributions, frequent in proceedings, which are only written to justify a claim for travel expenses.

Usefulness of the book would have been greatly enhanced if a few authors had been asked to review the broad areas of ovarian endocrine functions and to put recent advances and unsolved problems in some kind of perspective, or at least to have provided a summing-up of the proceedings. This is not a book from which the relative novice can easily obtain an overview. However, the book is of unquestionable interest and value to physiologists, biochemists and clinicians with an interest in reproductive biology and will provide a handy reference source for a wide range of aspects.

J. A. Edwardson

*Properties of Purified Cholinergic and Adrenergic Receptors*

Proc. 9th FEBS Meet. Budapest, 1974, Volume 37  
Edited by M. Wollemann  
North-Holland/American Elsevier; Amsterdam, 1975  
viii + 148 pages. \$ 12.50, Dfl. 32.00

This is one of seven volumes containing the invited lectures at the Ninth FEBS Meeting in Budapest, August 1974. The first half of the volume contains two papers on the properties of purified nicotinic acetylcholine receptor protein (AChR) and one dealing with electronmicroscopy of AChR-containing membrane preparations. There are five papers largely

concerned with the relationship of  $\beta$ -adrenergic receptors ( $\beta$ -AdR) to adenylyl cyclase.

The contents of the Symposium successfully brought into contrast the relative progress made in research on the biochemistry of AChR and  $\beta$ -AdR. With some developments, the position remains broadly unchanged at the present. The lack of specific

irreversible labels had delayed the isolation and purification of AdR, although some further progress has been made more recently (Lefkowitz, 1976, *Biochim. Biophys. Acta* 247, 1–41). Greater progress had been made, however, in clarifying events following the combination of catecholamine with  $\beta$ -AdR. This was well demonstrated by accounts of the stimulation of adenylyl cyclase by catecholamines, the role of membrane phospholipids and guanyl nucleotides (papers by Lefkowitz, by Wollemann and by Will-Shahab et al.) and by accounts of the actions of thyroid hormone and thyroid stimulating hormone on cardiac microsome and thyroid plasma membrane preparations (papers by Will-Shahab et al. and by Marshall et al.).

In contrast the purification of AchR had progressed to the stage at which investigations of the amino acid composition, subunit structure, carbohydrate content, immunological properties and interactions with cholinergic ligands were informative (papers by Heilbronn et al. and by Raftery et al.). However, information about the mechanisms underlying membrane events following the combination of acetylcholine with the receptor, was minimal. An

account of the reconstitution of chemically excitable vesicles from purified AchR and native phospholipids (paper by Raftery et al.) illustrated a recent, promising approach. Since the Symposium, further accounts of this kind, some cautionary, have indeed appeared.

Although interesting and, in the main, well produced, this volume shares the difficulty common to most published accounts of specialised symposia, particularly on rapidly developing subjects. Of necessity, they represent limited samplings of current research in the specified areas, the greater part of which has usually reached the scientific literature before the symposia are published. It may be thought, therefore, that books of this kind are not comprehensive enough for the student, while they contain material already familiar to the specialist. Several books and reviews have appeared in the past 2–3 years, containing articles by other contributors to the area of research covered by this particular volume. Work on AchR has been particularly well represented.

A. K. Prince

### *Mass Spectrometry of Steroids*

by Z. V. Zaretskii

John Wiley and Sons; New York, Toronto. Israel University Press; Jerusalem, 1976

xi + 182 pages. £ 9.90, \$ 19.80

First reports of the application of mass spectrometry to the structural elucidation of steroids were made in the mid-1950s and since that time these compounds have been extensively investigated. The present book sets out to summarize and review electron impact induced reactions of the principal steroid structures. The six chapters include steroid hydrocarbons, ketones, alcohols and olefins together with bile acids and oestrogens. Covering a range of steroid structures in a short book (182 pages) has necessitated brief discussion of the spectra of individual compounds and limited the treatment to selecting the most cha-

racteristic fragmentations induced by particular functional elements. The author has succeeded in presenting this data succinctly and in a style which is easily read. Figures and fragmentation schemes are well laid out.

The obvious importance of stereochemistry in steroid molecules and the need to differentiate configurational isomers is reflected in the emphasis placed on the effect of stereochemistry on fragmentation and rearrangement processes in the chapters on ketones, alcohols and oestrogens. The authors have also drawn together data on the relationship of ion