

## Parvoviruses

*The Parvoviruses.* (Virology Monographs/Die Virusforschung in Einzeldarstellungen, Vol. 15.) By G. Siegl. Pp. iv+109. (Springer: Wien and New York, 1976.) DM56; \$3.86.

THIS excellent little monograph reviews information on known members of the genus *Parvovirus* in the Family Parvoviridae. The volume of data accumulated during the past decade on members of this genus is so great (over 300 major references), and is so complex, that Dr Siegl has wisely concentrated on this genus, leaving information on the genera *Adeno-associated virus* and *Densovirus* to subsequent reviewers.

The intense interest engendered in this newly discovered family of viruses derives from their unique structure, a single-stranded DNA molecule capable of coding for only 3-5 proteins being enclosed in a 20-nm protein capsid. The dynamics of replication of such a single-stranded DNA in eukaryotic cells has provided an exciting challenge, and offered an ideal experimental system to study biochemical processes which occur during replication of DNA viruses.

For each of the nine members of the genus, Dr Siegl traces the work which has led to the finding that these viruses require cellular helper effects to replicate, and in consequence multiply only in actively dividing tissues. Although only two of the nine members have as yet been shown of importance in natural disease, the results of fundamental research on the 'important' members have shown these viruses to have a unique pathogenesis, selectively attacking foetal, neonatal, intestinal and haemopoietic tissue. This finding has in turn stimulated applied virologists to search for disease syndromes to associate with other members of this genus.

Dr Siegl has presented his review in sections, dealing with each virus on a species basis. Although this approach has inevitably led to some duplication of general information, it provides for easy reference by the species specialist, and certainly minimises the confusion associated with some members of the genus. Such complex data are particularly evident for the section on hamster osteolytic parvoviruses, and for those viruses which have been found as contaminants of cell lines. The review given for the porcine parvovirus has been subsequently developed (see Joo and Johnson, *Porcine Parvovirus—A Review*, *Vet. Bull.*, **46**, 653; 1976), and this virus has now been shown to

be a significant cause of natural reproductive failure.

Although information on the significance in nature of the porcine parvovirus and the feline virus have now clearly been established and control measures undertaken, it is disappointing to the reviewer as an applied worker, to see the paucity of information available on the disease significance of the bovine and canine parvoviruses. It is hoped that the future may see as detailed and conscientious a study of the significance of these viruses, and of possible human parvoviruses, as has been presented by the fundamentalists for the rodent viruses.

Although not in any way wishing to detract from the value of the monograph, the reviewer would have welcomed wider discussion and speculation by such a respected authority as Dr Siegl, and a gentle rebuke is included for the publishers in allowing printing of this excellent work without any obvious attempt to correct spelling and grammar.

**R. H. Johnson**

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## Prostaglandins

*Prostaglandins: Chemical and Biochemical Aspects.* Pp. xiii+252. £9.95.  
*Prostaglandins: Physiological, Pharmacological and Pathological Aspects.* Pp. x+367. £11.50. *Prostaglandins and Reproduction.* Pp. x+332. £11.50. (Advances in Prostaglandin Research.) Edited by S. M. M. Karim. (MTP: Lancaster, 1975-76.)

As Professor Karim points out in his introduction, it is now impossible to comprehensively cover the entire prostaglandin field in one volume; this latest contribution is accordingly divided into three parts. The complete set comprises more than 20 chapters written with varying degrees of clarity by almost 30 specialists.

Part I surveys current understanding of the role of prostaglandins in reproduction. There is a general discussion of the role of prostaglandins in the reproductive physiology of man (Karim and Hillier), subhuman primates (Kirton), laboratory (Labhsetwar) and some domestic animals (Flint and Hillier). There are also chapters on the use of prostaglandins to induce labour (Thiery and Amy) and to interrupt pregnancy (Karim and Amy). This volume concludes with an interesting chapter on the use of prostaglandins

and their analogues in animal husbandry (Cooper and Walpole).

Part II deals with the more basic chemical and biochemical aspects of prostaglandin research, beginning with a review by Schneider of chemical synthetic methods for prostaglandins. The methodological information in the chapter on prostaglandin analysis by Salmon and Karim is particularly welcome, as is a thoughtful contribution by Lands and Rome on inhibition of prostaglandin biosynthesis. Sanner and Eakins review prostaglandin antagonists, and in the final chapter Kuehl, Cirillo and Oien attempt to clarify the confused area of prostaglandin-cyclic nucleotide interactions.

Physiological, pharmacological and pathological aspects of prostaglandins are covered in Part III, with interesting chapters on the role of prostaglandins in the central nervous system (Coceani and Pace-Asciak), autonomic neurotransmission (Hedqvist), ocular (Eakins), gastrointestinal (Bennett), renal and cardiovascular (McGiff and Malik) as well as respiratory (Smith) physiology and blood coagulation (Howie). There is a rather short discussion on prostaglandins in inflammation (Greaves) and a welcome review of prostaglandins in tumours (Karim and Rao); this volume concludes with a useful review of the pharmacology of prostaglandin analogues (Karim and Ganesan Adaikan).

In rapidly developing areas, it is always difficult for reviewers to incorporate the most recent developments. Since 1974, there has been accumulating evidence that in some tissues, a large proportion of prostaglandin endoperoxides are metabolised to non-prostaglandin end-products and that in some cells (for example, platelets) the major biological actions are almost certainly due to the endoperoxides rather than the 'primary prostaglandins' E and F. This important idea was neglected by several contributors. It is regrettable—but unavoidable—that details of the most recent endoperoxide rearrangement products, the thromboxanes, could not be included.

I found this series worthwhile. It contains an abundance of up-dated material and covers much ground never before reviewed. The volumes have been well produced and the standard of the printing and illustrations was generally good, although there were some badly drawn structural formulae in one chapter. These volumes will be a useful addition to any departmental library; the cost of the series puts it beyond the pocket of most individuals.

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