BOOKS RECEIVED

A colour atlas of *Bacillus* species

By J. M. PERRY, P. C. B. TURNBULL and J. R. GIBSON. 1983. Wolfe Medical Publications Ltd, London. Pp. 272. £25.00.

This book presents a concise account of the methods used to identify members of the genus *Bacillus*. The techniques and basic principles are described. High quality photographs illustrate both the tests used and the organisms as they appear under the microscope and as colonies on agar media.

The authors' approach is based on their experience in medical and public health laboratories. The book's introduction briefly reviews the various systematic studies of the genus and the limits to the taxonomic knowledge. The biochemical and bacteriological tests used are tabulated and described in detail with photographic illustration of the positive and negative results. The book is well organised and presents with all necessary detail the descriptions of culture media, biochemical tests, serotyping and toxigenic and pathogenic manifestations of the organisms. An extensive bibliography with titles of papers is included.

The authors' taxonomic interests seem to have radiated outwards from *Bacillus cereus*, important as a cause of food poisoning, to the other members of the genus. An informative appendix tabulates the uses of many different strains of *Bacillus* in biotechnology.

The book is a model of the 'atlas' type and will certainly be a prime reference source for any bacteriologist concerned with the identification and classification of *Bacillus* species.

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Antibiotic choice: the importance of colonisation resistance

By DIRK VAN DER WAAIJ. 1983. John Wiley and Sons, Chichester. Pp. xiii and 132. £19.50.

During a little more than a decade, considerable insight has been gained into the important defensive role of the body's commensal microflora, notably in the oropharynx, intestine and skin. Professor van der Waaij and his colleagues in the Netherlands have concentrated on the natural antimicrobial defences of the gut, in both clinical and experimental animal studies. From their own and other findings they have developed the general concept of "colonisation resistance", which is the theme of this short monograph. Encompassed by this term is the sum total of the local protective factors at any particular body site which, when adequate, can prevent colonisation and superinfection by potentially pathogenic microorganisms.

In addition to microbial interactions, host factors including clearance mechanisms and local secretions contribute to a varying extent to colonisation resistance (CR). However, the pre-eminent part played by the normal flora in the gut is clinically all too evident from the adverse local effects of antimicrobial therapy—which range from mild "antibiotic diarrhoea" to pseudomembranous colitis. The effects of different antibiotics on the CR have been studied quantitatively in experimental animals, mainly mice. Commensal anaerobes appear to be the major defence, with, perhaps surprisingly, the minority gram-positive component chiefly implicated.

Caution is obviously required in extrapolating these and other findings directly to man. Inter-species differences are often striking in this field; it is, for example, unlikely that penicillin would have been introduced into clinical practice if guinea pigs had been the original experimental animal. Parenteral penicillin drastically reduces that animal's gut CR, leading to rapid overgrowth and systemic invasion by aerobic gram-positive bacilli.

Other related themes dealt with by Professor van der Waaij include the possible role of cross-reacting antigens from gut bacteria in the pathogenesis of auto-immune disease and graft rejection, as well as the part played by absorbed bacterial endotoxins in precipitating graft-versus-host disease in transplant recipients. On the positive side, a chapter contributed by