
Book Reviews

Contributions to Microbiology, vol. 1. *Bartonella and Afipia species emphasizing Bartonella henselae*. Ed. A. Schmidt. Karger, Basel 1998. Pp. 218; 30 figs, 18 tables. US \$127.00. ISBN 3 8055 6649 2.

This book is the first volume of the Karger book series *Contributions to Microbiology* which is a merger of two prior series, *Contributions to Microbiology and Immunology* and *Concepts in Immunopathology*. This new series is intended to focus on relevant topics of microbiology with special emphasis on emerging pathogens: as such the choice of bartonella to start the series is very appropriate.

This book has much to offer any microbiologist interested in the current state of knowledge of *Bartonella* spp. Each of the 14 chapters is clearly written, up to date, and provide good bibliographies. The book comprehensively covers the wide range of clinical conditions that have been associated with, not only *B. henselae*, but also the other members of the genus *Bartonella* including conditions such as bacillary angiomatosis, peliosis hepatitis, bacteremia and endocarditis. Aspects of the diseases in veterinary medicine, their therapy and differential diagnosis by traditional and molecular methods are also covered.

Due to the difficulty in culturing these organisms *in vitro*, many techniques for their detection and identification have been based on serological and molecular methods. Molecular diagnostic methods have targeted a variety of genomic sites including genes encoding the 16S rRNA and citrate synthase, and the 16S-23S intergenic spacer region (ISR). Whilst there is no real consensus or critical evaluation as to the best method of detection or differentiation of *Bartonella* species, the various published methods are described and several options and potential novel targets are given. Epidemiological characterization of isolates of *B. henselae* by repetitive element PCR and restriction endonuclease analysis of PCR-amplified 16S-23S ISR each have a chapter devoted to them. Brief mention is made of other existing typing methods such as pulsed-field gel electrophoresis, or possible alternative methods such as single-strand conformation polymorphism, denaturing-gradient gel electrophoresis, temperature-gradient gel electrophoresis (and presumably AFLP). These latter methods could potentially obviate the need for sequence analysis, which is often used in conjunction with PCR amplification-based methods.

This disadvantage of many of the techniques described

however, is the requirement for either pure cultures of the organism or the amplification of a species-specific product in the presence of many other genera. These problems are well-known, but there are no easy solutions and none are offered. In the absence of a large database describing phenotypic and genotypic attributes of strains of *Bartonella* and *Afipia*, the significance of the epidemiological conclusions based on relatively small numbers of strains must be regarded critically. The book concludes with a chapter on the epidemiology and pathology of *B. henselae* in cats.

The book does, however, contain a number of shortcomings for the prospective reader. The title itself is rather cumbersome, it is as if the Editor had to find a title to fit the chapters, rather than chapters to fit the book. Unfortunately this apparent ambivalence of purpose is reflected in the structure of the book which is really a collection of self-contained articles with little overall coherence. For example, the opening remarks of the first chapter 'The Genera *Afipia* and *Bartonella*' states that 'the genera *Bartonella* and *Afipia* continue to be associated solely because of the purported role of *Bartonella henselae* and *Afipia felis* in cat scratch disease (CSD)'. Given that this is the case, it would have been helpful to have a brief introductory chapter which addressed the historical aspects of the search for the causative agent of CSD. It might then have been clear why the detailed descriptions of two distantly related genera were being discussed in the same chapter or even the same book. Similarly detailed descriptions of the infections caused by *B. henselae* are given, but not in one but two separate chapters: 'Cat-Scratch Disease' and 'Overview of Other *Bartonella henselae*- Related Conditions' and '*Bartonella henselae* Infections in HIV and AIDS'. Although the information contained in these chapters is very good there is a lot of duplication and furthermore the two chapters are separated by a third entitled 'Human Disease – Apart from Cat-Scratch Disease, Bacillary Angiomatosis, and Peliosis – and Carriership Related with *Bartonella* and *Afipia* Species'. A description of the current taxonomic status of these two genera and their relatives illustrated with phylogenetic trees would also have been helpful, particularly as there is considerable reference to the use of PCR and hybridization probes using the 16S rRNA gene as a target.

The inclusion of chapter numbers and more illustrative pictures and figures would have been nice as would a standard format for references. Hopefully, the Editor will address these points in the next of what promises to be a very interesting series.

Despite its shortcomings this book should appeal to a wide audience including students, clinical microbiologists, epidemiologists, molecular biologists and anyone else who would like to learn about these interesting and increasingly important organisms.

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Diagnostic Virology Protocols. Ed. J. R. Stephenson and A. Warnes. Humana Press 1998. Pp. 370. \$79.50 (pbk); \$99.50 (hb). ISBN 0 89603 479 8 (hb).

About 15 years ago when I first decided to work in a field of virology one of the most respectable specialists in this area in my country was puzzled with my decision. 'Virology is finished he said – there is nothing to 'fish in this river'. Since then the real revolution in methods has opened a new era in pure and applied virology. New pathogens appeared on the scene including such now well-known human pathogens like HIV, hepatitis C and D, etc. Consequently, the presented book has appeared just in time.

The book describes not only novel approaches for the diagnosis of a broad variety of viruses but it is also a good guide for those who are looking to make contributions to applied virology. Chapters concerning the new principles of viral detection such as 'Recombinant antigens in viral diagnosis' by J. R. Stephenson and A. Warnes, 'NASBA – a new method for nucleic acid diagnostics' by D. van Strijt and P. Aarle, and 'Oligonucleotides' by S. Syrjanen give rise to a new concept of the detection of viruses.

The book is well illustrated and organized and is user friendly.

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Zoonoses. Eds. S. R. Palmer, Lord Soulsby and D. I. H. Simpson. Oxford Medical Publications 1998. Pp. 640; 250 photographs, 100 figs.

Zoonoses are defined as diseases and infections which are naturally transmitted between vertebrate animals and humans. As illustrated by this generally admirable multi-author reference book, zoonoses can be caused by a wide spectrum of agents, from prions to helminths, and are responsible for an equally diverse range of clinical diseases. What therefore is the rationale for a book which is exclusively concerned with zoonoses? The answer lies in the nature of the control activities for reducing the burden of these diseases amongst humans. Unlike anthroponoses, zoonoses can and must be tackled by combined veterinary and medical efforts. Recent history in Britain teaches us what can go wrong when the agriculture and public health lobbies fail to collaborate. In contrast, this book provides a timely reminder of how the burden of diseases can on occasions be lifted when the political will is there. In particular, there are well written summaries of many of the human diseases which have been significantly suppressed by

control activities focusing on transmission amongst the reservoir hosts. Some of the most impressive examples referred to in the book include the dramatic reduction in the incidence of rabies in Europe in the 1980s and 1990s through the aerial dropping in 14 countries of over 70 million wildlife vaccine baits; the virtual elimination of anthrax in South Africa through a mass cattle vaccination campaign; the 95% reduction in human incidence of brucellosis in Mongolia following the 11 year sheep and goat vaccination programme set up in the 1970s; and the reduction in cystic echinococcosis amongst humans following mass dog treatment programmes in Tasmania, New Zealand and Chile. Let us hope that the proposed mass chicken vaccination programme against salmonella in the United Kingdom will be equally successful. The book also describes how zoonotic diseases can be controlled through activities aimed at reducing human exposure to the pathogens, for example by milk pasteurization, without necessarily affecting transmission amongst the reservoir hosts.

The book comprises 70 chapters, each of which addresses the biology, clinical practice and public health control strategies for one zoonosis (or for one group of taxonomically related zoonoses). Each chapter is written by an expert in the disease in question; and, not surprisingly, there is considerable variation in the diligence with which each author has sought to provide a comprehensive and up to date summary of the relevant research. Most chapters begin with a brief summary, followed by sections on the history of the disease, the biology of the agent, the course of infection in reservoir hosts and humans, and the epidemiology, prevention and control of the disease. However, the editors have allowed the authors considerable flexibility both in the lay-out of their chapters and in the relative importance given to each section. Hence, the emphasis of each chapter tends to reflect the research interests of the authors, which range from molecular biology to clinical science or quantitative epidemiology. Despite this editorial weakness, it is clear from reading the book that there is great variability in the depth of our understanding of the different zoonoses. The many gaps in our knowledge are well illustrated, for example, by the continuing uncertainty of the role of badgers in our failure to eradicate bovine tuberculosis in England. By pointing out these gaps, the book provides a helpful marker for identifying where future research activities should be most effectively focused.

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Deciphering Global Epidemics. Eds. A. Cliff, P. Haggett and M. Smallman-Raynor. Cambridge University Press 1998. Pp. 469; about 150 illustrations. £55.00 (hb); £18.95 (pbk). ISBN 0 521 47266 0 (hb)

Anyone who works on the history of AIDS is familiar with the US Centers for Disease Control (CDC) and its *Mortality and Morbidity Weekly Report*. It was this source which in the early 1980s picked up the spiralling mortality among gay

men from a then rare pneumonia, *Pneumocystis carinii* pneumonia (PCP).

The *MMWR* is also a source for epidemiology in a more distant historical period, as the three historical geographer authors of the present volume demonstrate. Its forerunner, the *Weekly Abstract of Sanitary Reports*, collected by the United States Marine Hospital Service, provided global coverage of trends in epidemic disease from 1888 to 1912. This initiative was prompted by the threat of imported epidemics heightened by the development of commercial shipping in the last decades of the century. Out of 11 diseases and 350 cities covered by the reports, the authors have selected 6 diseases (diphtheria, enteric fever, measles, scarlet fever, tuberculosis and whooping cough) and 100 cities for analysis. The time period under consideration was, as the authors note, important for health and disease for a number of different reasons. This was the age of bacteriology, when the origin of some diseases was being understood for the time. The social and economic context was also significant. The early periods of industrial and agrarian revolution were over and sanitary improvement was making some impact.

The bulk of the book analyses the data relevant to the diseases in question over this time period at three levels – global, regional, and city. At the global level, evidence for mortality decline overall is ambiguous, although less so at the regional level. However, tuberculosis rates were rising almost everywhere. Disease cohesiveness among the European regions increased over time, and a distinctive American region had emerged by 1912. At a city level, for the 10 largest cities in the sample, the picture of horizontal or falling mortality was consistent, but even here, there were considerable fluctuations around the norm. The authors conclude from their analyses that some large cities act as permanent reservoirs of infection and in any epidemic, these peak earlier than smaller cities because infection is already present. In smaller cities, infections are restarted by infection carried from the reservoir cities.

The book concludes with a look to the future, based on this analysis of past figures, outlining a series of trends which will influence control of infectious diseases. These include the lessening of spatial barriers, the importance of rapid reporting and surveillance; sampling and mathematical modeling as tool of control; and the closer linking of disease control and socio-economic development.

The book is an impressive product packed with tables of analysis compiled on the basis of sophisticated geographical modeling techniques. It has in addition useful tables, for example of forms of transmission of infection, or lists of discoverers of major diseases. This is a major source book for the diseases in question and not just for the period of the *Reports*, for the authors cover the preceding context and aspects of the history of epidemiology and statistical surveillance. My only caveat comes in relation to their unwillingness to engage with key debates to which these data could contribute. They note that they have had neither the data nor the skills to enter into the current debate about the causes of mortality decline which most exercises demographers, historians of medicine and economic historians. The battles over the McKeown thesis, which have

been given new life in recent years with the reassertion of a public health perspective, are left undiscussed. The authors clearly see their text as a source book, into which others can dip in order to contribute to these debates, and they welcome requests for access to their data (which one hopes has been deposited in the ESRC data archive). This massively thorough exercise certainly deserves to be used to contribute to these controversies.

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STDs and AIDs in the Tropics. Eds. O. P. Arya and C. A. Hart. CABI 1998. Pp. 438; 141 figs.

Sexually transmitted diseases do not differ in their clinical manifestations in tropical and temperate countries. The notion that certain STDs, such as chancroid, donovanosis and lymphogranuloma venereum are ‘tropical’ is difficult to sustain in the era of mass tourism, and the name ‘climatic bubo’, which used to be applied to chancroid, is hardly appropriate for a disease which has been particularly prevalent in Greenland in recent years. So why do we need a book on STDs and AIDS in the tropics?

There are two important differences which characterize STDs in the tropics: they are far more common than in temperate (rich) countries, and facilities for their treatment are far scarcer. They are thus a major public health problem, and innovative strategies are needed to control them. But unfortunately this book, which is written by a UK-based venereologist and a microbiologist, pays scant attention to public health. It has grown out of a predecessor entitled ‘Tropical Venereology’, and is largely clinical in its content, reflecting the art of venereology as practised in the UK. For example, chapter 4, on history taking and examination, contains a detailed account of the ‘two glass test’ (a peculiarly British investigation), but nothing about condom promotion, counselling or health education such as could usefully be practised by clinicians seeing patients with STDs. There is a new section on the epidemiology of STDs in the developing world, which is up to date and well referenced, and a new section on a problem oriented approach to STD case management containing two excellent chapters by Professor Ahmed Latif; but this is tucked away on page 297.

I found myself wondering who this book is intended for. Certainly not for the hard-pressed clinician at health centre or rural hospital level, who will not have the time to worry about the eight human herpes viruses, nor the opportunity to request an RT-PCR to genotype his patient’s hepatitis C virus infection. Perhaps the District Medical Officer? But he will want to know how to set up, manage and evaluate an STD control programme in his District, and will find little to help him do that in this book. The Professor of Medicine in the University Teaching Hospital? Even he may have other things on his mind than how to distinguish the plasma cell balanoposthitis of Zoon from the erythroplasia of Queyrat, though he may find useful material here for multiple choice questions.

This book contains some fine colour photos, but it will appeal more to the collector than to the practitioner in

developing countries. As a work of reference, the reader would do better to consult the STD specialist's bible (*Sexually Transmitted Diseases*, edited by King Holmes); as a manual on how to run an STD control programme, the excellent handbook produced by AIDSCAPE/Family

Health International (G. Dallabetta et al., eds) will be far more useful.

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