

## Book Reviews

*Amazon Fish Parasites, 2nd Edn.* By V. E. Thatcher, pp. 508. Pensoft, Sofia-Moscow, 2006. ISBN 10: 954 642 258 4, ISBN 13: 978 954 642 285 3. £73.50.  
doi:10.1017/S0031182006212034

This volume, the first in the series 'Aquatic Biodiversity in Latin America' published by Pensoft, is an updated edition of Thatcher (1991). In 11 chapters it provides an overview of the metazoan parasites and some protistan parasites of Amazon fishes. Each chapter includes short explanatory sections entitled 'definition and morphology', 'life-cycle and transmission', 'pathology', 'prevention and treatment' and 'collection and study methods'. Then come keys to the genera in English and Spanish (not Portuguese) and a checklist of the species with the generic diagnoses. Associated with each chapter there are copious and usually excellent illustrations and a reference list.

The first chapter is a general introduction and the second headed 'Protozoa and Ciliophora' includes the Myxosporida (Myxozoa), now widely recognized as a metazoan group (Canning and Okamura, 2004). The chapter is rather small and indicates that these groups have been particularly poorly studied.

The third to eleventh chapters cover, in order, the Monogenea, Trematoda, Cestoda, Nematoda, Acanthocephala, Copepoda, Branchiura, Isopoda and, finally, the Hirudinea, Pentastomida and unidentified pathogens. An 'addendum' supplies a host-parasite list.

The Monogenea are considered 'perhaps the least known' group, but with 308 species and 70 genera listed, this seems unlikely, particularly in comparison with the subjects of the second chapter. The longest chapter is that on the trematodes, and is notable for the high diversity of fish amphistomes, so rare elsewhere, and the extraordinary shapes and ornamentation they exhibit. The cestode chapter includes those tetracyllideans and trypanorhynch found in the freshwater elasmobranchs of the Amazon basin.

The diversity described is astounding. It would have been interesting if this could have been put in a more general context, particularly in respect of the state of the study of Amazon fish parasites. For example, we have no information on how many fish species occur in the Amazon, what proportion has been examined for parasites and what collection biases (e.g. geographical) there may have been.

It is also a shame the author has not taken this opportunity to update the systematics and

nomenclature of some of the groups. Why, for example, use Monogenoidea (with its superfamily ending) for the much more widely used Monogenea? At one point the group name Cotyloda (p. 213) replaces the better known Cestodaria, although it would probably be better to use neither as current evidence suggests that this 'group' is polyphyletic (Xylander, 2001).

The production value of the book is good, with just a few misspellings, e.g. pl VIII is headed 'Myxoxporida', and other errors, e.g. figure labels 4–20 and 4–21 appear to be transposed.

Nevertheless, this is an attractive and useful volume, with many illustrations, including some excellent ones in colour, showing the amazing diversity of parasitic protists and metazoans in the fishes of one river basin.

**Canning, E. U. and Okamura, B.** (2004). Biodiversity and evolution of the Myxozoa. *Advances in Parasitology* **56**, 44–131.

**Thatcher, V. E.** (1991). Amazon fish parasites. *Amazoniana* **11**, 263–571.

**Xylander, W. E. R.** (2001). The Gyrocotylidae, Amphilinidea and the early evolution of the Cestoda. In *Interrelationships of the Platyhelminthes* (ed. Littlewood, D. T. J. and Bray, R. A.), pp. 103–111. London: Taylor and Francis.

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*Host-Parasite Interactions* (ed. Wiegertjes, G. F. and Flik, G.), pp. 255. SEB Symposium Series Volume 55. Garland Science/BIOS Scientific Publishers UK, 2004. ISBN 1 85996 298X. £80.00.  
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This book owes its origins to 4 papers presented to the American Physiological Society in 2002. Members of an EU Research Training Programme named 'Parity' were then invited to contribute their own work on fish immunology and host-parasite interactions. In addition, chapters on key topics such as programmed cell death in host-parasite interactions were added to complete this symposium series volume. The final outcome is a monograph comprising 10 review papers and covering a diversity of topics loosely held together under the theme of host-parasite interactions.

The first 3 chapters are essentially fundamental cell biology and review cell death in general,

apoptosis in non-mammalian hosts and the role of thiamine-positive cells in the regulation of infectious agents. These 3 chapters offer a good overview of aspects of the cellular responses mounted by hosts to infections.

The next 5 chapters are devoted to fish parasites from protozoan models, through monogeneans to crustacean infections and their authors consider basic parasite biology, immunology and pathophysiology amongst other topics. The final 2 chapters review the immunobiology of tick infections in mammals and avian coccidiosis, respectively.

Steinhagen uses Chapter 1 to introduce briefly the issues of cell death due to necrosis and apoptosis whereas Hoole and Williams in Chapter 2 focus on apoptosis in fish and lower vertebrates with an in-depth treatment. It is fascinating to learn that parasites not only modulate host apoptotic pathways but may also 'commit suicide' to regulate their own numbers. The roles of thiamine-positive cells are discussed by Neilsen and others (Chapter 3) in regard to mammalian hosts as well as, to a lesser extent, lower vertebrates.

Chapter 4 (Joerink and others) examine the immune responses of fish to trypanosomatid parasites in a blend of review and primary paper and this is followed by Woo's comparative treatment of kinetoplastids in which he describes the pathophysiology of salmon cryptobiosis and African trypanosomiasis. The host-parasite interactions in *Argulus* (Walker and others, Chapter 6) and sea lice infections (Johnson and East, Chapter 7) in fish are reviewed in some detail with consideration being afforded to parasite morphology, life-cycles, host specificity, attachment mechanisms and pathophysiology. Chapter 8 (Buchmann) is a wide ranging review of the interactions between monogeneans and their hosts, citing many different examples but quite naturally focusing on *Gyrodactylus salaris*.

The final 2 chapters review tick-host interactions (Alarcon-Chaidez and Wikel) with a view to understanding the immune responses evoked by feeding ticks and generating novel vaccines, and avian coccidiosis (Vermeulen) again with an emphasis on immune responses and vaccine development. All of the above chapters provide excellent introductions to the basic biology of the target organism(s) and the ways in which hosts respond to invasion and infection.

The diversity of topics in this volume is such that it is difficult to categorize it and thus identify an obvious target audience. I suspect, since the majority of the book deals with fish parasites, it will appeal mostly to that cohort of researchers – as such I can comfortably recommend it as a good read and source of information. The papers are well written by experts in the field and each is accompanied by an extensive reference list. Most chapters include

graphics of one sort or another but these are all black and white and are rendered rather soft in reproduction which is a shame since the original photographic artwork looks to be of a high standard. The editors have thoughtfully included a list of abbreviations but, as with many such ventures, it is incomplete and idiosyncratic. For instance, it includes AMP, ADP and ADP but omits NAD; among others it does not include CAD, ICAD, VDAC, PARP, IAP, BIR, ACMNV, CHSE and EPC all of which appear in the first 3 chapters. To be fair, each acronym is explained in the text and so one wonders why the need for a patchy list of abbreviations.

I can recommend this book as a good library purchase and I think it would be an excellent reference source for advanced undergraduate assignments and for starting PhD students. Because of its diversity I doubt whether many outside the rarefied world of fish parasite immunology and pathology would purchase a personal copy.

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*Proceedings of the Abildgaard Symposium 2005: Helminth Infections in Animals and Man – Population Dynamics, Host Susceptibility and Immuno-modulatory Effects* (ed. Webster, P. and Thamsborg, S. M.), pp. 111. The Royal Veterinary and Agricultural University, Danish Centre for Experimental Parasitology, Dyrhaegevej 100, DK-1870 Frederiksberg C, Copenhagen, Denmark. 2005. ISBN 87 7611 120 2. Copies may be obtained free of charge and post-free from the above address.  
doi:10.1017/S0031182006232037

This is a collection of 10 peer-reviewed papers, presented at the Abildgaard Symposium 2005, organized by the Danish Centre for Experimental Parasitology (DCEP) in August 2005. Contributors from several countries presented papers mainly, but not exclusively, focussed on parasites of pigs, with, as the title implies, a wide range of topics covered. Each article comprises a concise review of past and current work, with indications of future research directions. As a non-expert, I found these articles to be well written and both interesting and informative.

This volume is, however, more than a collection of good research papers. Of equal interest to me was a moving tribute to the late Peter Nansen, a brief history of the DCEP, with lists of former and current staff, and publications arising from the Centre between 1993 and 2005.

This is an excellent volume that I can recommend wholeheartedly.

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*Human Parasitic Diseases Sourcebook*. By S. A. Berger and J. S. Marr, pp. 537. Jones & Bartlett Publishers Inc. USA, 2006. ISBN 0 7637 2962 0. £29.99.  
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The book is full of details about all major aspects of parasitic diseases relevant to practicing physicians,

perhaps too much so. It is certainly not too appropriate for carrying around as a handbook, because its size is too big for pockets, etc. A summary of disease states is an excellent part of the book, as is its description of life cycles. Although the authors are recognized experts in tropical medicine, this reviewer recommends that they re-think the project and cut the size of the book in half. It is relatively mistake free, to the credit of the editors and the printer.

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