For anti-sea lice treatments to be used a discharge consent (as total amount of Treatment in a specified time) must be approved by the Scottish Environment Protection Agency (SEPA). Such consent assesses the ability of its active ingredient to be diluted within the wider environment to specified environmental quality standards (EQSs). Pre-use consenting is achieved by prediction of environmental concentrations of active ingredients and comparison with EQSs through dynamic modelling. The dispersion characterisitics of the active ingredients within the environment is vital to the accuracy of the models developed for this purpose. This one year project aims to review the present information on dispersion of cypermethrin bath treatment and obtain more detailed dispersion and diffusion data. This will aid SEPA in improving existing dynamic models and to develop more robust environmental quality standards. Included in this project, in conjunction with Professor Peter Davies of Dundee University, will be a theoretical investigation of the effectiveness of "skirts" for treatment and their likely effects on dispersion models used for regulation, compared to the completely enclosed systems used at present.

Initial field work has been carried out to develop consistent sampling and analysis methods for measuring the spread of cypermethrin and the environmental concentrations of this very hydrophobic substance in the water column using GPS tracking drogues and in sediment using sediment traps.

All sample analysis for cypermethrin in water and sediments is being done in-house, and initial results are showing that rigorous environment sampling and analytical methods are being used. These will be implemented at a number of fish farms sites treating with EXCIS in the new year. The project is ongoing and will be completed by May 2007.

Sponsored by the Scottish Aquaculture Research Forum (SARF), Novartis UK Ltd, and Marine Harvest Scotland Ltd.

Sampling dispersion

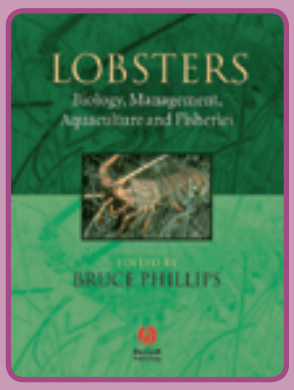
Lobsters: Biology, Management, Aquaculture, and Fisheries

Edited by Bruce F. Phillips. ISBN 978-1-4051-2657-1. Blackwell Publishing. 506pp. £125.00
Review by Janet H Brown

You cannot legislate for common names. How often do I say that in lectures? But I was still surprised to see the photo of the magnificent spiny lobster illustrating this book – "lobsters". Maybe this is more of a problem from the European viewpoint but the confusion is compounded in the preface where there is reference to "the marine lobster literature being vast in comparison to the freshwater species". So this is a book taking a very wide sweep when it comes to covering its topic. When it finally is made clear that the book is covering clawed and spiny lobsters there still remain problems, not least probably for the contributors. The difficulties of covering such a wide scope must have been particularly taxing when covering larval development.

The preface also says that the book owes much to the model of David Holdich's 2002 volume on the freshwater crayfish from the same publisher. This however seems to be mainly in that it finally separates the commercially important lobsters into their taxonomical groupings such as *Homarus* spp, *Jasus* spp, *Panulirus* spp etc. It does not follow the more total approach of the crayfish book; the biology it covers is quite selective in comparison. The chapters cover growth and development, reproduction, behaviour, phylogeny and evolution, pathogens, parasites and other symbionts, before tackling nutrition of both wild and cultured lobsters, larvae and post larval ecology, juvenile and adult ecology before finishing with the individual chapters on the species groups in turn.

It is thus covering a huge range of information. Different contributors however take different approaches so that while this book would provide a very valuable first step into seeking information on any aspect of lobsters, for some chapters it could also provide the information and the source, for others it is often just a reference and in this latter case it is arguably an expensive book to require readers to then go and seek the original sources.



Further disincentive for the student use, rather than the serious researcher is the use of a very old description of the cuticle of crustaceans; why in this case did they not use the more particular "crustacean" version as given in the Crayfish book rather than talk of exocuticle and endocuticle which was argued against so succinctly as relating more closely to insect physiology in 1985 (Stevenson J Ross1985. Dynamics of the Integument . In The Biology of Crustacea vol 9 1-42).

For the aquaculturist there is not as much information as might be hoped for. One explanation could be as given by the editor in his conclusions; that much of the recent work on spiny lobsters is being regarded as commercially sensitive and therefore is unavailable. Additionally much of the instrumental work on *Homarus* spp has been done some time ago and in this case it is perhaps entirely justifiable to refer the reader to an earlier review. I was however looking for updates on work on rearing spiny lobster larvae on jelly fish substitutes. The Scyllarid appear to have an association with medusae, but a search of the index will not help you find that reference very easily. The index is not generous to the casual reader and this is a pity. Greater generosity with photographs would also have been nice but might have increased costs even further. This is a valuable book for the scholar of the Decapoda and while bringing together such a wide taxonomic range has its difficulties it will no doubt provide a usefully wide view and a significantly helpful source book.