

# REVIEW

M. B. NEW, W. C. VALENTI, J. H. TIDWELL, L. R. D'ABRAMO & M. N. KUTTY (eds.), 2010. Freshwater prawns: biology and farming: i-xv, 1-544, ill. (partly in col.). (Wiley-Blackwell, John Wiley & Sons, Ltd., Chichester). Hard cover. ISBN 978-1-4051-4861-0. Price £149.99 or €180.00 (approx. US\$ 254.99).

This is an upgrade of the book "Freshwater prawn culture: the farming of *Macrobrachium rosenbergii*" by New & Valenti (2000; 428 pp.). The new book is edited by a group of five as documented in the title: New, Valenti, Tidwell, D'Abramo & Kutty. The contents have been contributed by "a team of 44 exceptionally well known and internationally-respected authors" originating from no less than 11 countries across the globe. This new edition is more voluminous than the 2000 version and has 24 chapters, each giving a vivid picture of the specific subject discussed, with an index concluding the book.

The coverage includes: biology and taxonomy; hatchery and grow-out culture systems; nutrition, feeds and feeding; genetics; size management; commercial developments around the world; post harvest handling and processing; marketing; economics and business management; and sustainability. Considering the importance of acquiring genetic knowledge of the giant river prawn, *Macrobrachium rosenbergii* and its congeners, a new chapter on 'Genetics' (chapter 15) has been added. In order to accommodate recent developments in farming and production, two new chapters have emerged from chapter 21 of the 2000 edition, i.e., on the Oriental river prawn, *Macrobrachium nipponense* (ch. 21) and on the Amazon river prawn, *M. amazonicum* (ch. 22). In 'Other species' (ch. 23) a new species, *M. vollenhovenii* has been added. Just a few of the chapters have been re-oriented (chapters 5 and 6 have now been combined); a few sub-topics have been added in only some of the chapters; while more figures and tables have been introduced in many chapters. I believe the editors have done a marvellous job in updating the developments in the field of production and culture of freshwater prawns, and they will definitely have raised the earlier text to the expectations of the publisher.

In the introductory chapter (ch. 1), Michael New beautifully unveils the history of the practice of freshwater prawn farming and presents an exhaustive overview of the status of current culture and production in different regions and countries all over the globe. He gives due respect to the pioneer workers, Dr. Shao-Wen Ling, who laid the 'foundation', and Dr. Takuji Fujimara, who completed the 'building' that paved the way for the explosive expansion of freshwater prawn farming in Thailand. While concluding the chapter, the author is remarkably silent about present and future opportunities in the island continent Australia (although in ch. 17 there is a brief note, and ch. 15 is contributed by the 'Aussie' authors P. Mather & D. Hurwood), while active research is going on in different universities and research organizations in that country. The following chapters are arranged systematically, and the presentation of the various subjects is most impressive: in ch. 2, L. B. Holthuis & P. K. L. Ng give the nomenclature and taxonomy of the genus, and clues to the identification of *Macrobrachium rosenbergii*. While describing the taxonomic history of *M. rosenbergii*, it becomes clear that the identity of *M. rosenbergii* is very much complicated, and that at present it can only be differentiated as two subspecies, an eastern and a western form (*M. r. rosenbergii* and *M. r. dacqueti*). However, the authors make no attempt to give a 'key' for identifying the various species of the genus. Chapter 3 (J. H. Brown & D. Israel) details the biological aspects of the species, which should be useful for learning the basics, as well as for those who are planning hatchery seed production and farming.

Chapters 4-13 discuss the detailed aspects of brood stock development, hatchery systems, larval feeds and feeding, nursery systems, grow-out systems, and nutrition, and in this way elaborate various essential aspects required for the successful functioning and management of a hatchery or farm. The various authors also discuss the “do’s and don’ts”, the merits and demerits, and further scopes of research, subjects that certainly will be beneficial for a varied readership of the book. Some information is especially useful for hatchery technologists, for example, the observation that particle size preference of the *M. rosenbergii* larvae is between 250 and 1190  $\mu\text{m}$ , which fact alone can avoid laborious work involved with feeding trials. Yet, some of the aspects are discussed with undue elaboration. For instance, in addition to the already detailed description of the supreme role of *Artemia* nauplii in ‘Larval feeds and feeding’, the authors of that chapter overemphasize nutritional qualities and usage. I assume that such a detailed narrative (about 10 pages) is not necessary within the contents of the said chapter, the more as a popular handbook on the same topic is available from one of the authors of this chapter, which could have limited the whole discourse to referring to the reference list. Nine more aspects are added in ‘Nursery systems and management’, monosex culture is introduced in ‘Grow-out systems’ (chapter 9), and topics on monosex and sex reversal techniques are addressed in chapters 15 and 16. In the chapter on ‘Health management’ colour photos of the diseased prawns could have been included, which would have given the reader a better understanding of the various diseases and which would have been more practically useful in the field. The chapter on ‘Genetics’ targets the general reader, and gives a wider coverage of topics than those that are essential for a new entrant. The various aspects discussed collectively form a stepping stone for the beginner, and will certainly help the expansion of genetic knowledge on species diversity and confirmation of the identity of the various species in different regions. In the chapter ‘Biology and management of size variation’ Ilan Karplus and Amir Sagi focus mainly on male morphotypes.

Michael New and Methil Kutty give a wide coverage of commercial prawn farming in many countries (major and minor) in various geographical areas. In chapters 18-20, the authors highlight the importance of post harvest handling, the fundamentals of processing, marketing, and economics and business management. It is interesting to note that eighteen traditional recipes (mostly American) have been added in chapter 19, which, as the chief editor says, is quite unusual to find in a scientific publication!

Kutty & Weimin (ch. 21) review the remarkable development of *Macrobrachium nipponense* farming in China during the past years, emphasizing the importance and viability of cultivating native species. In chapter 22, Valenti & Valenti discuss the culture prospects of the Amazon river prawn, *M. amazonicum*. Both these native species have a local consumer preference over *M. rosenbergii*, and fetch better prices in their respective regions. Kutty & Valenti (ch. 23) detail the research and development efforts devoted to the culture of still other *Macrobrachium* species (listed are 28 spp.). The final chapter, on ‘Sustainability of freshwater prawn culture’, briefly examines the management practices of freshwater prawn farming and discusses whether it fits within the aura of responsible and sustainable aquaculture. The authors conclude that, through trials and environmentally acceptable production methods, a substantial expansion of prawn culture is judged justifiable and, in fact, inevitable. It is appropriate that all chapters are followed by good collections of references for the discussed subjects, and the user can easily locate the ones he or she requires without any problem.

I strongly presume that this book would have been complete if the chapter on fisheries not had been removed, since otherwise we would have called it “The Bible on *Macrobrachium* spp.” It is further most commendable that a fair number of new authors (19) can be welcomed in this edition, but I wonder why six of the former authors have been removed from some chapters without much change in the respective contents!

In conclusion, this comprehensive review is certainly useful for students, farmers, researchers, and all those in search for any subject related to freshwater prawn culture. Given the good coverage of all the subjects, in a well explained manner, this book will be beneficial for beginners and can

clarify doubts of experienced farmers and biologists. Surely this beautifully bound book will be an asset to your scientific libraries!

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