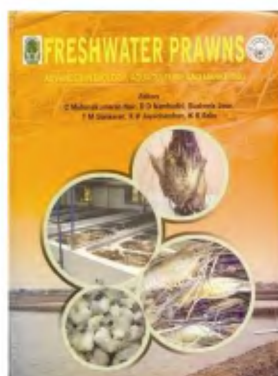


views. Most articles end with succinct summaries and perspectives for the future. I would have liked to see a better organization of the articles by theme. The lack of any foreword or editorial statement was surprising, in spite of the excellent job that the editors have done in collecting the articles included in this volume.

PARTHA P. MAJUMDER

Human Genetics Unit,
Indian Statistical Institute,
203, Barrackpore Trunk Road,
Kolkata 700 108, India
e-mail: ppm@isical.ac.in



Freshwater Prawns: Advances in Biology, Aquaculture and Marketing. C. Mohanakumar *et al.* (eds). Allied Publishers Pvt Ltd, A-104, Mayapuri, Phase II, New Delhi 110 064. 2007. 779 pp. Price not mentioned.

This book is the proceedings of an International Conference on Freshwater Prawns held at Kochi, India during August 2003. The conference was attended by over 500 delegates from 14 countries. Among the 126 papers presented by a galaxy of international experts, 86 peer-reviewed manuscripts are organized into 15 chapters in this book. Fifteen papers are the status reports of 10 countries, 11 are on hatchery technology, 10 on farming, 9 each on biodiversity, genetics and biotechnology, nutrition, 7 on sustainability and environment, 4 each on capture fisheries, and economics and Marketing, and 3 on Diseases and Man-

agement. The book also has a couple of chapters on the plenary session, in which a series of recommendations are listed; an author index is also appended.

Better lessons of intensive coastal aquaculture penaeids prompted the organizers to adopt a more careful approach, while popularizing farming of freshwater prawns. India is the native country of the giant prawn, *Macrobrachium rosenbergii* that has become the second most important cultured crustacean. Prawn farming requires a comprehensive aquaculture support service that involves training, research, extension, infrastructure facilities, marketing and distribution systems, so that it may provide rural employment and additional income, and improve aquatic environment and public health. Hence both the conference and the publication of its proceedings (this book) are timely and amply justified.

Summarizing the global status of freshwater prawn farming and recent research with a view towards the future, new indicates that despite having a larger culturable area, India stands as the third highest producer of the prawn (24,230 mt), following China (128,338 mt) and Vietnam (28,000 mt). As the major problem is our inability to realize the installed capacity of our hatcheries, we have much to learn from others. For instance, pH is an important factor in a hatchery; at the salinity of 12 g/l, the highest hatching success is 92% at pH 7, but less than 13% at pH 6.5 or 7.5. We are yet to diversify our culture systems; for example, Vietnam practices open recirculating, and modified static green water models, and has shown that the latter is more widely used due to the ease of operations, limited use of water and *Artemia*, higher survival and profit. Thailand has shown different methods of replacing *Artemia nauplii* in the hatchery, either completely or partially. The Government of Bangladesh is formulating a strategy for the shrimp sector on the basis of the National Fisheries Policy.

Sankolli and Shenoy have raised an important question whether India should go for a single species-based prawn culture? Soni *et al.* provide a comparative account on the larval biology of three large Indian freshwater prawns, which may prove important to develop new hatchery technology for large-scale seed production for their culture in different agro-climatic zones of a large country like ours. However, Sankolli and Shenoy

continue to state that they have successfully crossed *M. rosenbergii* and *M. malcomsoni*, and generated a 167% fast-growing fertile hybrid. However, it is not clear as to why they have not popularized the same. A pioneering contribution is provided by Sarin who describes optimum procedures for cold anaesthetization of *M. rosenbergii* larvae at 15°C for packing, live storage and revitalization. He has also shown that clean moistened and chilled at 2–3°C, coarse saw dust as a medium of live storage and transportation of brooders. Vartak and Singh have found that a dose of 125–150 mg clove oil/l is optimum for induction and recovery of juvenile *M. rosenbergii*. It is in this area of research that India requires contributions urgently.

In farms, a complex population structure composed of three major morphotypes is known to occur the small male (sm), medium-sized, orange-clawed male (om) and giant-sized, blue-clawed male (bm). From long-term, well-planned investigations, Karplus has shown that in the absence of bm, the sm grew to a large size and hence they may be reservoir males. Among the tested factors, competition for food, inefficient conversion of food and chemical factors, the chemical factors proved to be the real cause for the emergence of the three morphotypes. The following few chapters describe the usefulness or disadvantages of high vs low-density culture, size or sex-graded culture and culture systems. Many studies undertaken in Bangladesh suggest that rice cum giant prawn culture increased the profit by 3–4 times.

Despite the fact that the giant prawn is cultured in 43 countries in all the five continents, we know almost little about genetics of the prawn. Removal of androgenic gland (AG) from mature females results in complete sex reversal. Injection of farnesylacetone (FL), a compound secreted by the AG inhibits vitellogenesis. However, injection of FL into females is a skilled and costly technique, which cannot be widely practised. Attempts have been made to produce all male progenies using androgenic steroids like testosterone, methyltestosterone and norethindrone, but these hormones neither masculinized nor accelerated growth. Research must be undertaken on chemical ablation or silencing of genes responsible for specific-sex differentiation stages, which could lead to sex reversal. Alternatively, a parental stock to produce all

BOOK REVIEWS

male progenies can be generated by crossing functional neo-females and normal males.

Under the section on nutrition, notable contributions are those indicating the use of taurine, glycine, arginine, trimethylamine and blood spraying on pellets as chemoattractants, L-tyrosin as promoter of protein efficiency and *Lactobacillus sporogenes*, *Bacillus subtilis* and *B. licheniformis* as probiotics.

Most Asian countries like Bangladesh, India and Vietnam culture prawns mostly for export. Invariably, the export suffers rejection by the importing countries on the grounds of bacterial load and pollutants. This has resulted in the adoption of

HACCP, the food safety criterion of the Apollo Mission Programme, as a mandatory guide for food safety and processing industries. For instance, the bacterial load of prawns sampled from India ranges from 3.65×10^5 to 7×10^7 , while tolerance limit is $<5 \times 10^5$, and that of the chlorinated pesticide residues is also higher than the tolerance limit. This is an important area in which the producers and processing industries require support by the Government to evolve a national policy for aquaculture. The Government must also support sustainable aquafarming of prawn by encouraging low-density culture integrated culture and diversification of candidate species from the list of 24

species of *Macrobrachium* and *Caridina* available in our country.

The editors are to be appreciated for bringing out this justifiably voluminous book, for flawless editing and colour pictures. The book is a landmark contribution and will prove an asset to policy-makers, professionals, consultants, farmers and postgraduate students interested in prawn farming.

T. J. PANDIAN

School of Biological Sciences,
Madurai Kamaraj University,
Madurai 625 021, India
e-mail: tjpandian@rediffmail.com

Erratum

Table 2 in the article 'Assessment of water quality in tsunami affected Andhra coast' by Y. V. Swamy *et al.* (*Curr. Sci.*, 2006, **91**, 1409–1412) contains errors in the first two columns pertaining to pH values. These columns should read as follows:

pH	
April 2005	May 2005
7.4	7.3
7.38	7.4
7.54	7.44
7.88	7.68
7.85	7.85
7.85	7.17
8.06	7.7
9.12	9.0
8.5	7.83

— Authors



SwB

**D 107 Saket
New Delhi 110 017, India**

Scholars without Borders

Academic Books, Texts, Monographs
Documentaries. Journal subscriptions.

Order online: www.scholarswithoutborders.in

By e-mail:
scholarswithoutborders@gmail.com

Or SMS: (+91) 99717 63322

**Current Science subscriptions
can be made through SwB**