Advances in Marine Biology. A. J. Southward *et al.* (eds). Elsevier, 11830, Westline Industrial Drive, St. Louis, MO 63146, USA. 2003. Vol. 46. pp. 352. Price not mentioned.

That the editors of the book under review have successfully brought out 15 volumes during the last 10 years, clearly indicates the success and usefulness of the series. As in others, four contributions, which are not immediately related to each other, are included in this volume. They are concerned with (i) benthic foramnifera, (ii) beach-inhabiting mole crab, (iii) coral bleaching and (iv) fatty-acid trophic marker. The first contribution by A. J. Gooday is based on 354 references, of which about 60% was published between 1993 and 2003. A similar analysis indicates that contributions on coral bleaching and fatty-acid marker are also based on about 60% publications that appeared after 1993. Hence these three contributions are currently hot topics.

Foramnifera are remarkable and immensely successful sarcodine protists; they are characterized by a network of pseudopodia, and pass though complex sexual and asexual life cycles. Understandably, their abundance and species composition in the food-limited ocean floor environment hinge on the organic flux and oxygen concentration. Being a major component of marine communities, highly sensitive to environmental influences and the most abundant benthic organisms preserved in the deep-sea fossil record, they convey a substantial amount of information about the climatic conditions of the ocean floor. Understandably, frequent attempts are being made to use them to reconstruct the ancient oceans and their climate. However, this review is restricted to faunal characteristics such as species, species assemblages, diversity parameters and test morphotypes. It is a remarkable contribution to a group of protists, about which there is heightened awareness, especially in the context of global warming. More attention should have been paid to the reference section. For instance, the alphabetic order of the references in p. 74; the inclusion of the Roman number I or II following the journal's name in many references could have been explained.

The second one attributes the unusual reproductive strategy adopted by the male crab to successfully colonize its physically challenging habitat, the sandy beach. Based on the generalization that neoteny is the characteristic of male *Emerita* (Efford, 1970), the authors have regarded that male *E. asiatica* is also neotenic. With experimental observation on sex reversal in some laboratory-reared males, Barnes and Wenner (1968) postulated sex reversal in *E. analoga*. Using histochemical evidence for sex reversal, the reviewers concluded that some neotenic males continue to grow, gradually lose their secondary sexual characters and undergo sex reversal by acquiring female characters, when they attain a body size of 19 mm carapace length, the same body size at which the primary females too attain sexual maturity. Among sex reversing fishes, this kind of diandry is also not uncommon. But these anomuran authors, for some reasons, have not chosen to assess the reproductive performance of the secondary females, as fishery scientists have. In this review too, there are avoidable errors; for instance, Jeanloc in p. 108, but Jeanloz in the references and Diaz 1980 in p. 123, but Diaz 1981 in the references.

The third contribution significantly advances our understanding of coral bleaching. S. L. Coles and B. E. Brown have shown that bleaching results primarily from the combined effects of elevated temperatures and high light conditions; these, in turn, increase the rates of biochemical reactions associated with zooanthellar photosynthesis, producing toxic forms of oxygen that interfere with cellular processes. Publications on the episodes of coral bleaching and widespread mortality have, however, failed to consider the fact that as living organisms, the corals are capable of acclimatization and selective adaptation to elevated temperatures. For instance, a total of 124 species of corals in the Great Barrier Reef are found to have morphs containing the phyto-protective fluorescent pigments. Although most available information and projections are not encouraging in terms of environmental stresses that are likely to occur, there are also indications that corals have potential for greater physiological tolerance. Indeed, many corals are now shown to possess effective mechanisms of adaptation and acclimatization that may ensure their survival and recurrence. Yet, there are limits for the acclimatory processes that they encounter during coral bleaching. For instance, chronic decrease in energy reserves of bleached corals results in reduced ability to complete gametogenesis, long after the symptoms of bleaching had ended in the adults.

In the concept-making fourth contribution, J. Dalsgaard and co-authors have admirably explored the possibility of using fatty acids as qualitative and quantitative markers to trace prey–predator relationship as well as in the trophic dynamics in the marine environment. The fatty-acid trophic marker (FATM) concept is based on the observation that marine primary producers lay down certain fatty-acid patterns that may be transferred conservatively and hence can be recognized in primary consumers. Micro-algal group-specific FATM have been traced in herbivorous calanoid copepods. At higher trophic levels, these markers of the herbivores are, however, increasingly obscured. Yet the reviewers have made a great contribution to our understanding of the dynamics of uptake of dietary fatty acids, their incorporation, synthesis and utilization during starvation and reproduction in crustaceous zooplankton with respect to major food webs in strategically selected seas.

The book represents a contribution to marine biology and a marker of the success and usefulness of the series.

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