

Book Reviews

Flatfishes: Biology and Exploitation (Fish and Aquatic Resources Series 9, series ed. T.J. Pitcher)

Edited by R.N. Gibson

Blackwell Science Ltd (Blackwell Publishing) Oxford, 2005

ISBN 0–632–05926–5, £79.50, \$154.99

Hardback, acid-free paper, pp. xxiv + 391; 37 tables, 88 figures; index of scientific and common names, subject index.

Flatfishes have been and continue to be an important target for fisheries around the world and members of this singularly identifiable group of fishes are estimated to make up around 25% of groundfish landings worldwide. This is not a trivial amount of fish flesh, and perhaps not surprisingly, given their dietary importance, studies of certain flatfishes have a long history with many seminal studies dating back into the nineteenth century. Despite their anatomical oddity the study of flatfishes has been influential, and in many ways it was early work on flatfishes that marked the beginnings of science-based fisheries biology and research. Innovations in the development of tagging experiments, ageing techniques, the early study of population dynamics and the impacts of exploitation, migration, and the study of mass rearing owe much to early flatfish workers. No doubt largely in response to ever declining stocks, this interest has not waned and no fewer than six international conferences on flatfish biology and ecology have been held in the past 15 years. The current volume, a 391 page compilation, draws on the work of some 29 authorities on flatfish fisheries and biology and provides, as the title promises, an overview of current knowledge of the biology and exploitation of flatfishes. The result is a data-rich book that outlines much of what you might ever want to know about flatfishes and more, but which also underscores how much more there is that remains

unknown. It turns out that for the vast majority of species we know virtually nothing, and for large swathes of the ocean exploration has hardly begun. Most of what is known is known for cold and temperate near-shore waters and – as for so much of the rest of the ichthyological world – the tropics and the deep sea remain under explored, poorly documented, and very probably increasingly over-exploited.

Following an excellent introduction by the volume's editor, Robin N. Gibson, in which the main topic areas of the book are briefly discussed and many of the more interesting findings presented in subsequent chapters are summarized, the remainder of the book can be broadly divided into three main sections. The first covers, in two chapters, what is known, and unknown, of flatfish systematics, species diversity, taxonomy, and distribution (both in time and space, and within the water column), and provides a useful descriptive biogeography for many family-level pleuronectiform groups. The second, and largest, portion of the book deals with the standard themes of general organismic and fisheries biology — ecology, reproduction, development, transport, recruitment, trophic biology, growth, and behaviour. The final section provides a well-coordinated summary of the history and current status of flatfish fisheries in the (mainly temperate) Atlantic, Pacific, and in the far less well-documented tropical Oceans. Also included is a – slightly redundant in view of the preceding chapters – general overview of assessment and management, and a chapter on aquaculture and stock enhancement.

In a short foreword, the Series Editor ponders why flatfish deserve a monograph or conference all to themselves (and presumably also a volume on their biology and exploitation) and responds with the observation that "...flatfish, defined as members of a monophyletic order of Pleuronectiformes, are endowed with a number of special and unique features (they underlie that instant recognition)..." and so is

pleased to host the volume. While there is no gainsaying that the current volume does represent a useful addition to Blackwell's Fish and Aquatic Resources Series, and is one that provides much information of interest to fisheries scientists, I can't let that notion of monophyly-as-justification go without some comment. First off, it is the shared possession of special and unique features that enables us to diagnose monophyletic groups of fishes generally, so in the best of worlds all monophyletic groups would be so diagnosed. Admittedly, the putative synapomorphies of pleuronectiforms are impressive in having recognizable anatomical, and perhaps also ecological, consequences on body form, internal organization, and life style. Pleuronectiformes, currently diagnosed by the shared possession of the migration of one eye during development (and associated asymmetries), an anteriorly positioned dorsal fin origin, and the possession of a *recessus orbitalis* facilitating eye protrusion, are also described as species rich (estimated in this volume to number some 716 valid species), ecologically diverse, and highly successful. All of which, of course, begs the question: compared with what? The answer, unfortunately, is that we don't yet know. Morphological comparisons have to date been unable to uncover convincing evidence placing the flatfishes within a phylogenetic context, so the necessary comparative framework to underpin such qualitative assessments is lacking. Even more problematic, but perhaps also more interesting, are some recent findings beginning to percolate out of analyses of various molecular datasets. For example, a series of recent analyses suggest that the Pleuronectiformes are most probably phylogenetically associated with an interesting assortment of latiiids, carangoids, menids, and scombroids (e.g. Miya *et al.*, 2003; Chen *et al.*, 2003; Dettai and Lecointre, 2004, 2005) with some analyses finding the pleuronectiforms to be paraphyletic (surprisingly in one case with respect to the freshwater latiid genus *Lates*, of Nile perch fame) (Dettai and Lecointre, 2004). Admittedly none of this is of central import to the current volume, but it is I would have thought of at least passing interest to potential consumers. Consumption of the literal kind is what provides the real justification for this compilation. Flatfishes, whatever their phylogenetic status and relationships, are an icon of fisheries biology and harvest and as such clearly merit a place in Blackwell's influential, if expensive, Fish and Aquatic Resources Series.

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Benthic Habitats and the Effects of Fishing (American Fisheries Society Symposium 41)

Edited by P. W. Barnes and J. P. Thomas

American Fisheries Society Bethesda, MD, 2005.

ISBN 1-888569-60-3, \$75.00 (AFS members

\$53.00) Hard cover, acid-free paper, pp. xx + 890, numerous tables and figures. Combined taxonomic and subject index.

This large 890-page volume results from American Fisheries Society Symposium 41, 'Effects of fishing activities on benthic habitats: linking geology, biology, socioeconomics and management', held in Tampa, Florida in November 2002. It consists of a collection of 59 refereed papers and 101 unrefereed abstracts grouped into 10 broad categories. Also included is a 21-page transcript of the moderated open discussion held at the end of the symposium. The Introduction by the editors is brief, but is an important read, as it details the background, coverage, and perceived shortcomings of the symposium. As stated by the editors, the objective of this volume is to focus on the effects of fishing activities on benthic habitats and the related science and knowledge needed to understand and quantify those effects, as well as to suggest new ways to address them for