

BOOK REVIEWS

Shanks, Alan L. (editor). 2001. *An Identification Guide to the Larval Marine Invertebrates of the Pacific Northwest*. Oregon State University Press, Corvallis, Oregon. 320 pages. ISBN 0-87071-531-3. Hardcover, US\$49.95.

The number of marine laboratories along the west coast of North America, and the west coast's long-standing fascination with marine invertebrate zoology, would lead one to think that someone, somewhere, must have compiled a list of, or a guide to, the various invertebrate larval forms a student might encounter. Surprisingly, no such guide exists. Alan Shanks has performed a valuable service in attempting to edit the first such compilation. His *Identification Guide to the Larval Marine Invertebrates of the Pacific Northwest* (the Guide) is a valiant attempt to bring together disparate literature and information into one volume.

The Guide covers a geographic range described as “roughly from British Columbia to northern California” (from the Introduction) and is restricted to larval forms of shallow subtidal and intertidal invertebrates. However, the geographic region includes species found both north and south of the target area, so the volume will be of use along the entire west coast of the U.S. Although the Guide targets mainly subtidal and intertidal species, zoologists studying invertebrates from other depths will benefit from it, as will students of plankton in general.

After a brief introductory section written by Shanks, the book is divided into 20 chapters, with each chapter treating a different group of marine invertebrates. Two groups, mollusks and arthropods, are split into three chapters each, and the remaining groups (Porifera, Cnidaria, Platyhelminthes, Nemertea, Entoprocta, Polychaeta, Sipuncula, Echiura and Pogonophora, Phoronida, Bryozoa, Brachiopoda, Echinodermata, Hemichordata, and Urochordata) are each afforded a separate chapter. Most chapters begin with a general introduction, which includes some reproductive biology of the group being treated, then continue with sections on larval development, with an emphasis on existing descriptions of Northwest Pacific species. Some of the larger chapters have useful tables that list the known species found in this region (somewhat incomplete as concerns the crustaceans; I am not qualified to assess the

other major taxa) and all known references to descriptions of the larvae of these species. Additionally, many chapters have keys to the larval stages based on species known from the Pacific Northwest. Although this treatment is useful, I would have preferred a wider approach, such that larval types likely to be encountered by students are at least mentioned and figured, even if there is no description of the larvae of a local species of that group. Perhaps the addition of a simple pictorial key would have been useful, especially for taxa that are not specifically covered in the book. Such an approach—using more or less schematic drawings of larvae for basic identification purposes—was taken in a very useful earlier publication by Deboyd Smith (Smith, D. L. 1977. *A Guide to Marine Coastal Plankton and Marine Invertebrate Larvae*. Kendall/Hunt Publishing Company, Iowa), which I have used for many years and still consult from time to time. Shanks and his students are aware of this earlier book, as some of their figures are reprinted from it, but several taxa treated in Smith's earlier book are not included in the new volume. On the other hand, the new volume is intended to be principally a regional guide, so perhaps this is an unfair criticism.

The division of the mollusks into three chapters seems somewhat logical (gastropods, bivalves, and “smaller groups”), but the division of the arthropods (into barnacles [20 pages], isopods [3 pages], and decapods [71 pages]) seems less so. Shanks, in the Introduction, acknowledges several shortcomings of the volume. The first of these is that the volume is entirely a compilation of descriptions of larval stages from existing literature. Thus, there are no new figures or new data included. Also, the illustrations, understandably, are therefore mixed in terms of their quality, detail, and accuracy, as they have been taken unmodified from the original literature. The second shortcoming is that the guide was “to a large extent written by people who have not been trained as taxonomists.” Although Shanks himself authored six of the chapters, other compilers were graduate or undergraduate students, presumably (we are not told) at the Oregon Institute of Marine Biology (where Shanks works) or at Oregon State University (publishers of the book). I wholeheartedly applaud this inclusion of, and encouragement of, students in

this endeavor; it is an excellent way to expose young minds to our field. However, I do wish that there had been some brief biographical sketches or even a list of the authors responsible for the different sections, as I would have liked to have learned something about each of these authors (Steven Sadro, who compiled four of the chapters, Kevin Johnson, Lana Crumrine, Jeffrey Goddard, Laura Brink, Andrew Arnsberg, Amy Puls, Katherine Rafferty, and Bruce Miller).

The lack of a strong background in invertebrate zoology among the authors is telling in some instances. Some larval stages (e.g., the cnidarian ephyra) are not mentioned, and some groups (e.g., stomatopods, copepods, and amphipods as crustacean examples) are not included. This is unfortunate, and to some extent avoidable. Even if information is not available for local (Pacific Northwest) species, it would have been helpful, and not too difficult, to include some generalized figures of some of these larval forms for the sake of completeness.

There are some editing or publishing problems that detract from the usefulness of the book. An unfortunate pagination error runs

throughout the volume (i.e., page numbers listed in the table of contents and in the index do not correspond with the text), and this makes searching for topics awkward.

I fully expect that future editions will address these minor oversights. Indeed, Shanks uses the Introduction to encourage users to send in comments and corrections for the eventual improvement and updating of the volume. Thus, I am certain that we can look forward to improved versions over the years, and this volume should be seen as the start, rather than the culmination, of this project. The work is an important starting point and an important reference for marine biologists, biological oceanographers, and just about anyone with an interest in marine invertebrate zoology in the Pacific Northwest. The book is also aesthetically pleasing, nicely bound and cleanly printed. Although the price is hefty for a student-compiled assortment of pre-existing larval descriptions containing some taxonomic and systematic flaws, it gives us, finally, a place to begin, and this makes it worth the cost.—Joel W. Martin, Natural History Museum of Los Angeles County.