

More than a seafood platter

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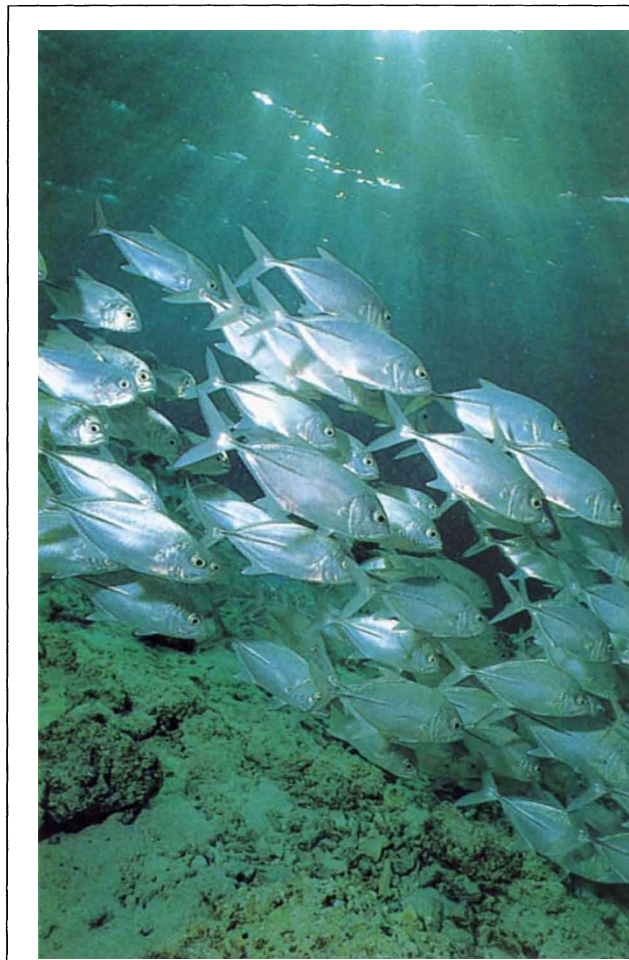
Fishbase: A Biological Database on Fish (CD-ROM and User's Manual). Edited by R. Froese and D. Pauly. *International Center for Living Aquatic Resources Management, Manila, Philippines: 1995. \$95.*

WITH more than 30,000 publications listed annually in the *Aquatic Sciences and Fisheries Abstracts*, knowledge of fish and fisheries is increasing at a prodigious rate. The difficulty lies in making this knowledge accessible to a wide range of potential users. The problem is particularly severe in many developing countries, where fisheries may be central to the well-being of the population yet up-to-date information on their proper management may be unavailable.

Motivated by these concerns, workers at the International Center for Living Aquatic Resources Management in Manila, Philippines, have compiled a new fin-fish database on CD-ROM. Called *Fishbase*, it is the most comprehensive database of its kind, covering the biology, distribution and taxonomy of roughly 12,500 species of fish — about half the estimated total number of extant fish species. What is more, the database includes all commercially important species, which adds to its usefulness in fisheries management. Much of the information comes from the UN Food and Agricultural Organization's 'SPECIES-DAB' lists, and the project itself is funded largely by the European Union.

Central to the database is the 'species table', which contains basic information about each species. From this table one can access other tables which cover in detail nine main areas of piscine biology: taxonomy, global distribution, population dynamics, trophic ecology, reproduction, ichthyoplankton, morphology and physiology, genetics and aquaculture. The amount of information is enormous, with data on everything from swimming speeds, to diet, to genetic variability. Inevitably, the information is sometimes incomplete, but the authors are committed to upgrading the database as new data become available — an updated version, with lots of improvements and additional material, is in fact already on its way. Publication of the database will itself highlight gaps in our knowledge and stimulate new research.

The authors have, however, ambitiously aimed to provide more than a well-signposted gateway into a vast primary literature and an analytical and searchable summary. For one thing, they see *Fishbase*



SILVER shoal — bigeye trevallies (*Caranx sexfasciatus*) are open-water predators that chase and herd shoals of smaller fish, sometimes driving them towards the surface and causing them to panic so that they can pick off their prey. Picture taken from *The Living Sea: A Photographic Exploration of Life in the Sea* by Linda Pitkin. Fountain, £24.95.

as being useful to undergraduate and postgraduate students, offering a comprehensive overview of fish biology (complete with pretty pictures illustrating adults, larvae and sexual dimorphism) along with data capable of fuelling highly specialized projects. Their avowed aim of producing a database that is both "global and deep" seems to have been achieved.

Perhaps with still younger users in mind, the package includes something called FishQuiz. Pictures are displayed on the screen in a random order and the user is invited to choose, from a multiple choice, which family, genus and species are represented. There are, praise be, no sound effects or halls of fame.

Fishbase is currently of limited value to studies of biodiversity, mainly because of the lack of adequate records for many species. But the addition of an accepted phylogeny, if and when one becomes available for fin-fish, would turn it into a powerful tool for evolutionary biologists; as it stands, the collection of data on life-history and population parameters, together with existing phylogenies, will surely find use in comparative studies.

Fishbase is contained on a single CD-ROM and comes with a detailed manual on how to use it and where to find the data tables. It requires a 486 DX2

machine or better, with 8 (but preferably 16) megabytes of random access memory, and operates from Windows (version 3.1 or later). A good quality VGA display is recommended for the colour pictures. *Fishbase* is impressive to use: the operating system is clearly laid out so that users can easily move from one dataset to another. Distribution data can be displayed as a WinMap plot (a minor fault is that this is shown as countries on a map where a given species has been reported or collected rather than as a plot of distribution *per se*) and a built-in glossary contains definitions of more than 1,000 terms.

In short, *Fishbase* draws together and makes accessible a huge amount of information about fish and fisheries, much of which was previously buried in the 'grey literature' of reports from fisheries institutes or working parties. By summarizing what we already know and indicating future directions for study, it will be useful for both researchers and students. Perhaps most important, and certainly closest to the authors' hearts, it will benefit developing countries, where the lack of comprehensive libraries is often keenly felt. □

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