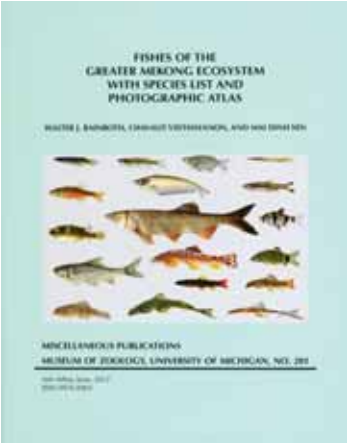
THE RAFFLES BULLETIN OF ZOOLOGY 2012 **60**(2): 595–596
Date of Publication: 31 Aug.2012

BOOK REVIEW



Fishes of the Greater Mekong Ecosystem with Species List and Photographic Atlas. Rainboth W. J., C. Vidthayanon & D. Y. Mai, 2012. Miscellaneous Publications. Museum of Zoology, University of Michigan, no. 201. 173 pp., 121 pls. Ann Arbor, Jun.2012. ISSN 00768405.

The Mekong River is the twelfth longest river in the world, and its aquatic biodiversity is second only to the Amazon River. Estimates of the number of fish species residing within the Mekong River drainage vary anywhere from 700 to well in excess of 1,000, although the true figure (about 850) is expected to be closer to the lower end of the range (Hortle, 2009). Even though works describing the ichthyofauna of selected regions of the Mekong River drainage (e.g., Rainboth, 1996; Kottelat, 2001; Vidthayanon, 2008) exist, no such work covering the river drainage in its entirety has been written.

This work by Rainboth et al. thus represents a first attempt at covering the incredibly diverse ichthyofauna of the Mekong River drainage from its headwaters in Tibet to its mouth (and beyond) in southern Vietnam. The book is divided into five parts: the first part is an introduction that describes the physical geography and geology (both past and present) of the Mekong River drainage, as well as highlighting some problems in fish taxonomy in the region; the second part comprises an annotated list of fish species found in the greater Mekong ecosystem; the third part lists the references used; the fourth part is an index to fish names and the last part is a photographic atlas of more than 2,500 species of marine and freshwater fish species.

I found the scope of the work baffling and its results are unlikely to resolve the debate as the actual number of fish species found within the Mekong River drainage (since the 2,500+ species covered is far in excess of the upper range of 1,200–1,600 often quoted in literature and includes many species found a considerable distance from the Mekong River delta). The authors define the greater Mekong ecosystem as the area by which the river exerts a significant effect on the biota. Because of the size of the discharge plume of the Mekong River (which carries nutrients far out into the South China Sea), the area covered by this book includes a sizable portion of the Gulf of Thailand and the South China Sea. There is thus the inclusion of numerous marine fish species, some of which (e.g., coral reef associates) are never associated with river drainages, which seems odd for a work whose main focus is on the fishes of a single river drainage. Even some of the freshwater fishes featured are not known from the Mekong River drainage per se. Such examples are known from the adjacent short coastal drainages draining the western face of the Krâvanh (Cardamom) and Dâmrei (Elephant) Mountains such as *Trigonostigma espei* and *Glyptothorax coracinus*.

Given that this is a work many years in the making, I understand that trying to keep up with the changes in fish taxonomy over the period of its production can be overwhelming. Even so, some lapses are still evident, e.g., the failure to use *Pseudobagarius* for some species of *Akysis*, and *Ostorhinchus* for some species of *Apogon*.

The annotated list of fish species found in the greater Mekong ecosystem is also not particularly informative, since the notations in the list merely indicate the origin of the specimen illustrated in the photograph. It would had been more useful to give, for example, the known distribution of each species (with particular reference to the Mekong River drainage). One can also argue that the photographs of the fishes in the final section of the book are far too small, although it should be mentioned in defense that it would have been impossible to use much larger versions of the 2,541 photographs featured without making the resulting volume elephantine and unwieldy to handle. A work of this nature also begs for the inclusion of species accounts and keys, which are clearly lacking. It is all well and good to identify (in a quick-and-dirty manner) fish species using the photographic atlas, but dichotomous keys would have been much more useful in this regard. The keys have been promised for a second work (presumably a follow-up) in the book, but it would have been more useful to field biologists to include everything in a single volume.

The above gripes do not detract from the fact that this work is unprecedented in its breadth and scale. The detailed discussion of the geology of the Mekong River drainage is very useful to those seeking to understand the aquatic biogeography of this highly complex system, and is likely to remain a key reference in this regard for many years to come. And whatever its shortcomings may be, the photographic

atlas (and hopefully the follow-up dichotomous keys) will remain a very useful resource to those seeking to identify and understand the vast ichthyological diversity of the Mekong River drainage.

LITERATURE CITED

Hortle, K. G., 2009. Fishes of the Mekong: How many species are there? *Catch and Culture*, **15**: 4–12.

Kottelat, M., 2001. *Fishes of Laos*. Wildlife Heritage Trust, Colombo. 198 pp.

Rainboth, W. J., 1996. *Fishes of the Cambodian Mekong*. FAO Species Identification Field Guide for Fishery Purposes. FAO, Rome. xi + 265 pp., 27 pls.

Vidthayanon, C., 2008. *Field Guide to the Fishes of the Mekong Delta*. Mekong River Commission, Vientiane. 288 pp.

Ng Heok Hee
Tropical Marine Science Institute
National University of Singapore
Kent Ridge 119227, Republic of Singapore