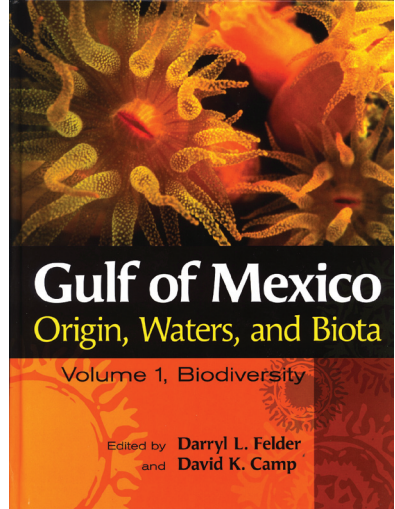


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GULF OF MEXICO: ORIGIN, WATERS, AND BIOTA. VOLUME 1. BIODIVERSITY by Darryl L. Felder and David K. Camp, eds. (J. W. Tunnel, D. L. Felder, and S. Earle, series eds). 2009. Texas A&M University Press. ISBN-13: 978-1-60344-094-3 (cloth: alkaline paper), ISBN-10: 1-60344-094-1 (cloth: alkaline paper). 1391 p. \$95.00.

This is the first volume in a series of seven intended to describe the Gulf of Mexico environment and its natural history. Senior editor John W. “Wes” Tunnell is Associate Director at the Harte Research Institute (HRI), Texas A&M University, in Corpus Christi, Texas. In the formative years of the HRI, Wes was charged with spearheading projects focused on the long-term sustainable use and conservation of the Gulf of Mexico. The seven-volume series contains the results of one such project: the preparation of a 50-year update of Paul S. Galtsoff’s influential *Gulf of Mexico—Its Origins, Waters, and Marine Life*, published in 1954 as *Fishery Bulletin 89* by the [U.S.] Fish and Wildlife Service (Volume two, *Ocean and the Coastal Economy*, edited by James C. Cato, was published earlier in 2009). Although the volume expands extensively on the original



*Bulletin 89*, for the sake of brevity and practicality I will refrain from drawing comparisons with Galtsoff’s original work. It suffices to say that the new book provides breathtaking evidence to the 50+ yrs of regional biodiversity information garnered since Galtsoff’s publication. According to the editors, 63% of Galtsoff’s *Bulletin 89* was devoted to biology, a slant reflecting the focus of that era. It will be interesting to see, after all seven volumes of the series are published, what percentage of the total number of pages of *Gulf of Mexico: Origin, Waters, and Biota* will be devoted to biology. Editors Tunnel, Felder, and Earle initially conceived the “*Bulletin 89*” project in late 2001, shortly after the establishment of HRI. Although almost eight years have passed since the beginning of this project, a quick glimpse at the volume one contents reveals that it was well worth waiting for.

The volume will be most useful to researchers, agencies, and biologists dealing with faunal surveys, including governmental environmental and wildlife agencies, private ecological firms and consultants, and scientists working on broader conservation and environmental issues. Volume one is not intended to be an identification resource. There is a relatively heavy focus on literature and lack of direct identification tools. Thus, volume one will prove to be most useful as a turnstile for biodiversity data, redirecting the reader to more specific literature on the taxonomic group of interest. By the editors own account, the volume is designed to answer questions related directly to conservation and management, such as how many species are present in the area; under what ecological conditions; who are the experts; where are the diversity hotspots; which are the invasive, endangered, threatened, endemic, or extinct species in the region; is diversity changing in the region, and if so, how and why; and where should future efforts focus.

There are 79 chapters in this volume; with exception of Chapter 1, “An Introduction to Gulf of Mexico Biodiversity Assessment,” and Chapter 79, “Population Genetics and Biogeography of the Gulf of Mexico,” all remaining chapters are treatments of taxonomic groups (phyla, classes, etc.) straddling the tree of life from Archaea and Bacteria through Mammals. The lengths of chapters are apparently proportional to the diversity of the group, to the knowledge base associated with it, and/or its perceived importance. Accordingly, the free-living, saprobic, filamentous fungi chapter spans six pages and the one on Gnathostomulida five pages, whereas the phylum Mollusca is covered in seven chapters spanning 191 pages, and the class Crustacea in 16 chapters spanning 284 pages! Different chapters are covered by one or more specialists in the group at hand; the list of authors constitute a veritable who-is-who of current western Atlantic and Gulf of Mexico biodiversity and taxonomy. It would be hard, if not impossible, for any single reviewer to evaluate the accuracy and adherence to current taxonomic practice for each chapter included in volume one. However, if the treatments of my favorite group of organisms, the mollusks, are indication of the degree of care devoted to other taxonomic groups in the volume, then the editors accomplished what they set out to. As expected from a volume dealing with regional biodiversity, its authors are based in a number of different countries, but a large percentage of them are based in Mexico, a country that is obviously a major stakeholder in the project.

Although the approaches used to determine taxonomic classifications and study methodologies traditionally vary enormously among the groups of organisms treated, the editors managed to enforce a good deal of consistency from chapter to chapter. Most chapters start with an introduction to the group that includes a biological definition, an account of the history of its taxonomy, and a brief history of studies related to the Gulf of Mexico. The introduction is usually followed by a heavily referenced check-list in tabular format. A typical entry includes species name, habitat/biology, depth range, overall geographic range, range in the Gulf of Mexico, and references to the literature (numbers that link to literature citations at the end of the chapter.) Each chapter contains a list of references, which makes the search of citations easier. In most cases, there are no descriptions of individual species, especially for the larger groups of organisms. As expected from this type of encyclopedic check list-based work, illustrations are kept to a minimum, consisting mostly of a single line drawing to typify a class or other higher rank, and a separate grouping of 32 plates of color photographs depicting stunning images of living Gulf of Mexico organisms, from marine bacteria and fungi to sea birds and marine mammals.

A potential criticism of the work relates to its format. Many would argue that, in times of fast online publications and the ease of updates over the Internet, this type of paper-based encyclopedic work is bound to be almost instantly outdated by the time it is published. It is indeed surprising nowadays to see a 1400-page volume (and one that weighs in excess of 7.5 pounds). But if you are willing to accept the format (and weight), it is a publication well worth adding to your library. In days when the price of scientific books is oftentimes prohibitive, you will get a real bargain purchasing such a massive amount of information for \$95 (less if you look in some discount sellers).—José H. Leal, *The Bailey-Matthews Shell Museum, P.O. Box 1580, Sanibel, Florida 33957.*