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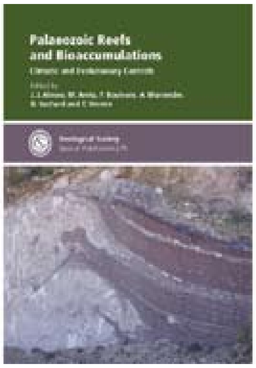

Álvaro, J. J., Aretz, M., Boulvain, F., Munnecke, A., Vachard, D., and Vennin, E., eds., 2007, Palaeozoic Reefs and Bioaccumulations: Climatic and Evolutionary Controls: Geological Society, London, Special Publication 275, 291 pp. £80.00 (USD 160.00) (list), £48.00 (~$98.00 to Geological Society, AAPG, GSA, and SEPM members). ISBN-10: 1862392218.

I remember years ago—a distant time pre-pdf—mailing a postcard requesting a reprint of a recently published reef paper and hearing back that all copies had already been snapped up. There is something about reefs that attracts wide attention from a broad spectrum of geologists and biologists, making this family of rocks very popular indeed. Reefs abound in interesting and beautiful fabrics and fossils. For over three billion years they have been oases of biotic diversity, which make them critical monitors of environmental and evolutionary change. Living ones are front and center in the minds of concerned environmentalists and diving enthusiasts, as iconic as the rainforests. This book grew out of a gathering held at the Muséum National d'Histoire Naturelle in Paris, September, 2005. I attended that meeting and also had the pleasure of reading some of the 17 contributions prior to publication. The authors, editors, and the Geological Society brought the book to completion in a timely manner.

But holy nebuloid thromboids, Batman! What a vocabulary reefs have inspired! Geologists have been arguing for decades about reef terminology and what is and is not a reef. Are stromatolites reefs? What about stromatactis-bearing mudmounds? Oyster bioherms? How does a boundstone differ from a bindstone? Who is not bewildered by bafflestone? Do word combinations like bioaccumulation and bioconstruction serve better for these sorts of rocks? Here you will also see biocementstone, leiolite, autoparabiostrome, dendrolite, and more. It is understandable that such complex phenomena with their diverse animal, mineral, and vegetable contributors will lead to this, and the editors do deal with some terminological issues as part of their wide-ranging introductory paper. This paper, on coquina–reef transitions, uses a series of short case studies to amply demonstrate the staggering range of features exhibited by reef and reeflike limestones but makes a case for the unifying processes of rapid sea-floor stabilization by benthic organisms, or cementation, or both. The rest of the papers deal with individual reefs, bioclastic accumulations, platforms, and fossil beds ranging from the Cambrian through the Permian, and from Mexico to the Urals to Oman.

The first three papers are about the Early Cambrian: platform-margin phosphatic grainstones from France (Clausen and Álvaro) and archaeocyathan reefs from Sardinia and Morocco (Gandin et al.; Álvaro and Clausen). The only Ordovician paper (Hunter et al.) deals with stylophoran and ophiuroid echinoderm-bearing mudstones and has a taxonomic appendix, thus sitting apart from the more carbonatic papers of the volume. The famous Silurian patch reefs of Gotland and Siluro-Devonian reefs in the Austrian Alps get specific and regional treatment, respectively (Kershaw et al.; Hubmann and Suttner). The Belgian Middle Devonian is described on the basis of facies and magnetic susceptibility of associated strata (Mabille and Boulvain). The Frasnian of Belgium merits two papers, a succinct review of the well-known mudmounds (Boulvain), and a description of the not-so-well-known laminar coral and stromatoporoid biostromes (Poty and Chevalier).

We stay in southern Belgium for a treatment of latest Devonian–earliest Carboniferous (Famennian through Viséan) boundstones, which show that reefs are more common there than previously known for this post–mass extinction interval (Aretz and Chevalier). Chaetetid patch reefs and associated crinoidal grainstones from the Upper Carboniferous (Pennsylvanian) of northwestern Mexico are described in two papers (Almazán-Vázquez et al.; Buitrón-Sánchez et al.). Biotic fabrics inside neptunian fissures are detailed from a large Permian reef in the southern Ural Mountains (Vennin). Shelf carbonates of the Arabian Platform in Oman yield intervals with and without calcisponge and coral reefs, and the paleoceanographic and paleoclimatic implications for the Neo-Tethys (Weidlich). The penultimate paper turns to paleobiogeography at the Permian–Triassic boundary as recorded in the Caucasus and Hungary and, in addition, documents the presence of spinel microspherules that may be of meteorite origin (Théry et al.). The final paper focuses on growth periodicities in Middle Devonian tabulate corals from northern France that may be seasonal (Zapalski et al.).

So we have traveled through some 300 million years, looked along the edges of reefs, peered deep into cavities within them, sifted through the carbonate sand around them, looked closely at microbes, admired the corals, and tickled the brittlestars—surely more fun than a snorkeling holiday in the tropics where all you see are fish! I learned a lot from these papers and I should like to mention that the paper on the Lower Cambrian of Sardinia is fittingly dedicated to the late Max Debrenne, long-time contributor to Cambrian reef studies.

Geological Society special publications are handsome volumes, but are not cheap, even for members of affiliated societies. This one has the small format typical of the series—which, however, does not do justice to the photographs of reef fabrics—but it is nevertheless well illustrated and well edited and has an index. The front cover bears an exquisite photograph by coeditor Javier Álvaro of a cut surface of the flank of a Lower Cambrian patch reef from a quarry in southwestern Morocco. It will catch the eye of structural geologists because of the spectacular crack array confined to the competent boundstone, but absent in the ductile-flanking mudstones.

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