

BOOK REVIEW

TALENT, J. (ed.) 2012. *Earth and Life: Global Diversity, Extinction Intervals and Biogeographic Perturbations Through Time*. xxviii + 1100 pp. Springer. Price £90.00, US\$129.00 (HB). ISBN 9789048134274. doi:10.1017/S0016756812000489

This huge volume was published as part of the UNESCO International Year of Planet Earth (IYPE) scientific programme, a joint initiative of UNESCO and the International Union of Geosciences. The core year for the IYPE was initially 2008, but grew to 2007–2009. Volumes already published in the series are *Geophysical Hazards* (2009), *New Frontiers in Integrated Solid Earth Sciences* (2009), and *Medical Geology* (2009), and it appears that other volumes are to be released in 2012. The present volume is said to be aimed at Earth Science professionals and students.

The text in the nicely finished, extremely weighty hardback volume is in two columns, each page being 190 × 260 mm; the volume is lavishly sprinkled with colour illustrations. There are six parts to this tome: general articles (9 contributions); evolution exemplified by specific phyla or classes (9); global extinction events and biocrises (9); palaeogeography (5); Cenozoic era (3); and an editorial epilogue.

Perhaps the first step is to assess broadly how the volume has met the stated aims. At the mega-level, the IYPE programme hopes to ‘go some way toward helping to establish an improved equilibrium between human society and its home planet’. In his preface to the volume John Talent says ‘The volume was directed towards considering the broad pattern of increasing biodiversity through time, and recurrent

events of minor and major ecosphere re-organisation . . .’; in other words, to scrutinise life crises throughout geologic time.

Seventy four authors contributed to 36 papers. With all due respect to the skilled editor and his cast of stars, given the vast number of taxonomic groups, one volume cannot hope to cover every last group, event, crisis or extinction. So what do we get? We find a volume packed with information and interpretation, large and small papers, with a heavy emphasis on invertebrates (my count is: invertebrates [25], vertebrates [8], plants and fungi [2]). To me it seems that the first four papers in the general section are those which best address fundamental questions of biodiversity (Aberhan & Kiessling; Brett); astronomical phenomena (Lieberman & Melott); and climate (Dodson). Most other papers focus on individual taxonomic groups, time intervals, events or particular environments. A most spectacularly illustrated and substantial paper (Jun-Juan Chen, pp. 239–379), with its main focus on South China, discusses the early history of the animal kingdom, including early ‘vertebrates’ from the Maotianshan biota. For me, another valuable contribution is that by Black *et al.* (pp. 983–1078) on ‘The rise of Australian marsupials: a synopsis of biostratigraphic, phylogenetic, palaeoecologic and palaeobiogeographic understanding’.

Assessment of the other contributions is hardly a feasible option, given the wide range of subject material. There is a huge wealth of important material in the volume, which is a must for Earth Science libraries.

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