



Book Reviews

Encyclopedia of Caves.

David C Culver and William B White
(Editors). Published by Elsevier Academic
(Amsterdam, Boston and London). 2005.
654pp. ISBN 0-12-406061-7. £65.

Following hot in the footsteps of John Gunn's encyclopedia (reviewed in CaKS, Vol.31, No.1; see also this volume of Speleogenesis), this is another massive tome containing wide-ranging overviews and essays on many aspects of caves (but only incidentally on surface karst).

Overview of the geo-sciences within this volume was evidently the task of the second editor, Will White, already well known for his many papers and books on cave geology and hydrology. There are 39 entries that cover the main components of cave geo-science, and these vary from exciting and up-to-date syntheses to rather mundane reviews that have largely been seen before. One entry describes the multiple aspects of solution caves, and another provides the best available review of cave development by sulphuric acid; both are by Art Palmer and both are excellent. Entries on cave passages, passage development and underground karren features further explore cave genesis. Processes of stalagmite deposition are described by Wolfgang Dreybrodt, in an entry that is happily more readable than some of his erudite classics. There are then more entries that overview stalactites, stalagmites, helictites and gypsum deposits, with another very readable item on saltpetre mining – though all its data refer to historical sites in American caves, with no mention of ongoing activity in China's caves. An all-too-common failing of American publications is their parochialism; this tome is no exception, as too many examples, concepts and terms lack true internationalism. Karst hydrogeology, water tracing, coastal caves, epikarst, closed depressions and subsidence sinkholes each have their own good

reviews that stand out from the crowd; surface karst has no entries of its own.

Among the entries are 15 that describe "exceptional caves", all with names that international cavers will recognise. This could have been where parochialism paid off with some good overviews of American caves, but it doesn't. Too much caving, too little caves; though there are some useful descriptions. Friar's Hole is a classic of upland karst evolution well described by ex-Brit Steve Worthington. The nearby Burnsville Cove caves have little more than their exploration related, though there are some great photos. The entry on Mammoth Cave is surprisingly sparse, with no photos and no mention of the exciting $^{26}\text{Al}/^{10}\text{Be}$ dating that showed how very old are its clastic sediments. The Wakulla Spring caves have a welcome entry, but there is no scale on the maps. Lechuguilla is well reviewed and has an incredible survey but none of the fabulous photos for which this cave is famous, while Kazumura Cave has a better illustrated overview of its unbroken lava tube that is 41km long within a system of 65km of passages.

Outside USA, the overviews of important caves such as Siebenhengste and Castleguard are right to have been included, but offer little that is new. An entry on Krubera is included, but of course lacks its recent explorations to -2080m (which made the Encyclopedia join the honourable list of cave books that are instantly out-of-date). The Huautla caves have a welcome overview, but the area line map is confused by leaving the surface survey traverse on the computer output. Numerous Brit cavers will be horrified by the entry on Mulu, with its American bias, no photos, an appalling out-of-date and inaccurate travesty of a map, and nothing on the geomorphological evolution. There is a useful overview of the Nullarbor caves, but neither China nor New Guinea even appear in the index.

The Encyclopedia's first author is a biologist, and nearly half the pages are devoted to cave

biology (with numerous splendid colour photos of cave life), which remains outside the knowledge base of the reviewer and therefore outside this review. A few entries also cover caving techniques, though this is always difficult to put to paper. An entry on camping in caves provides amusing reading of accounts of the various attempts at underground camping in USA mainly in the 1950s to 1970s, but could have improved by including note of more recent Soviet experience in their cold caves.

Undoubtedly, many cavers and cave scientists will find this volume to be a useful resource. It does contain a lot of information, including a few entries that are really valuable contributions to cave literature. Most illustrations are sound, but some have notable failings; there is a scatter of good photos (including an amazing image of a hydromagnesite balloon on page 313). The index is large, but (as with many an index compiled by publishers' specialists who lack real knowledge of the subject matter) is questionably complete (Sinkholes should refer the reader to many entries

other than the Sinkhole entry, notably to the entire entry on Closed Depressions and to the Sinkhole Plain within the Mammoth Cave entry).

It is inevitable that comparisons are made with the Gunn Encyclopedia, and, for the cave geoscientist, it is also useful to compare it with the Speleogenesis volume, edited by Alexander Klimchouk and friends, which appeared a few years ago. Table 1 reveals the numerical comparisons, mainly with reference to the geo-sciences. Culver and White has the better presentation, and has more of the longer entries, but (except for a few absolute gems) these still lack depth (no pun intended). Gunn is more encyclopedic, with much the widest coverage, which also includes surface karst. Klimchouk provides the deeper science, but can make heavy reading, and is underground geoscience only, with no mention of cave biology. Your reviewer has all three on his shelves, and uses them all; as he contributed to the Gunn tome and not to the others, it would be inappropriate to state his personal preferences. Cavers will find their own favourite, but will like features of all three.

TABLE
Encyclopediae compared

Editor year title ISBN publisher	Gunn 2004 Encyclopedia of Caves and Karst Science 1 57958 399 7 Fitzroy Dearborn	Culver and White 2005 Encyclopedia of Caves 0 12 406061 7 Elsevier	Klimchouk et al. 2000 Speleogenesis... 1 879961 09 1 National Speleo. Soc.
list price (January 2005)	£95	£65	£40
pages (main text only)	788	618	484
price per text page	12p	11p	8p
price per geoscience page	21p	22p	8p
geoscience pages	445	295	483
diagrams/maps	174	155	305
photos colour	33	79	1
photos b/w	192	59	85
entries - geomorphology	76	39	48
entries - caves / karst areas	100	15	17
biology and archaeo pages	193	268	—
Caving, etc. pages	127	41	24
total contributors	203	106	36
total entries	351	107	62
total pages	902	654	507

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February 2005