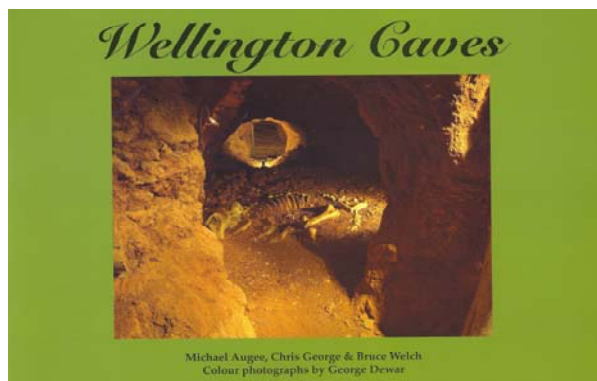


## BOOK REVIEWS

Augee, Michael; George, Chris, & Welch, Bruce. ***Wellington Caves, New South Wales, Australia***. Wellington Caves Fossil Study Centre, 2008. ISBN 978-0-9805289-0-9. 32 pp, plus cover. Full colour – colour photographs by George Dewar. Available at Wellington Caves Visitor's Centre. \$5.00. **Reviewed by Lisa King.**



This easy-to-read, soft cover booklet provides a useful orientation to the Wellington Caves Reserve located off the Great Western (Mitchell) Highway about sixty kilometres southeast of Dubbo in New South Wales.

The introduction to *Wellington Caves* includes an area map and important visitor information such as tour times, group bookings, on-site and nearby amenities and attractions. It highlights the geology and history of the Reserve area. One of the unusual historical photos is that of an Aboriginal carved tree on the Reserve in 1882, as well as, images of particular cave entrances painted by Augustus Earle in 1826/27.

In the following pages, the author's overview some of the key features of the eight caves located within the Reserve. Two of the caves, Cathedral and Gaden, are open for public tours. The descriptions of these caves include full page photos, maps and smaller images.

The authors also provide brief descriptions and photos of four of the five other caves in the

Reserve not open to the general public. One of the caves, Mitchell's Cave, is of real interest for historical reasons – it is the site from which the first Australian fossils for scientific study were ever collected.

In 1830, several boxes of fossil bones collected from Mitchell's Cave were sent to Europe and created tremendous interest as the bones were a mixture of large extinct marsupial species and living species.

These bone boxes were key in the development of Darwin's law of the 'Succession of Types' upon which the close affinities between extinct and living species within a particular geographic region was based.

An illustrated description of a restored Phosphate Mine which passes through Bone cave, containing an in-situ *Diprotodon* skeleton and open for guided tours, is included as are images of the diversity of fossils found along the Reserve's Fossil Trail. The last page contains frequently asked visitor questions.

Each page of this 10 x 7 inch booklet contains a map, illustration or colour photograph. The inside front and back cover contain historical black and white photos.

One bit of information missing that I would have liked to have seen included is information on proper cave etiquette. *Wellington Caves* not only aims to attract visitors to the Reserve, but to act as a meaningful souvenir for site visitors. It serves both functions nicely.

Cigna, Arrigo A. (Ed). ***Proceedings 5th International Show Caves Association Congress, Bermuda, 2006***. 156 pages A5; colour cover. Inquiries to Renata Marinelli, ISCA Secretary <renatamarinelli@libero.it>. **Reviewed by Kent Henderson.**

The proceedings of the 5th ISCA Conference (Bermuda, 2006) were published just in time for the 6th Conference in Slovakia in 2010. It is an interesting document.

The Proceedings contain reports, the ISCA Constitution and its schedules, and various other administrative documents. By Page 67, we come to the papers presented. Nine are published – I am not sure if that was the number presented, or simply the number of final versions received. Certainly nine papers for a whole Congress could not be considered as many...

However, the lack of quantity was largely offset by the quality! The first two papers are by ISCA President, David Summers – *A Short History of Crystal Caves of Bermuda*, and *The Amazing Story of the Admiral's Stalagmite*. Both are very

interesting, particularly the latter, which tells of the story of a stalagmite 'officially purloined' from Crystal Cave by a British Admiral and transported to Scotland, onto its subsequent destruction in 1973.

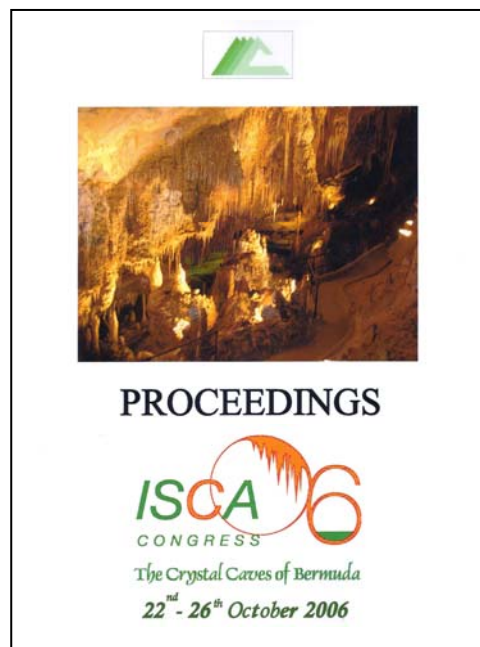
The next paper is on *Radon in Caves*, by Professor Arrigo Cigna. This seminal work runs for 35 pages, and is without doubt a benchmark paper on the issue. Of course, Radon remains a significant show cave problem in Europe in particular; far more so than in Australasia.

The next paper is by Tom Aley namely: *The development of an industry standard for alpha radiation exposure in show caves in the United States of America* – obviously a 'practical follow-up' to Arrigo's paper, and it is excellent too.

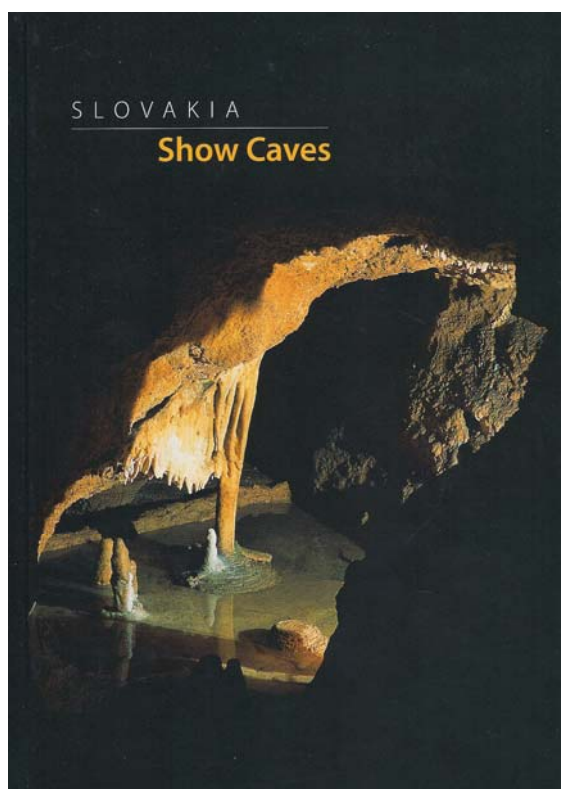
Another great paper follows: *Reconstruction Work in the Vörös-Tó section of the Baralda Cave in Hungary*, by Kinga Székely *et al.* This extensive presentation, which is well illustrated, gives an excellent description of the work undertaken and the prescriptions that surrounded it.

In having personally been in Baralda Cave, I can attest to the great job that has been done there. Any cave manager considering a significant re-development could very usefully use this paper as a reference.

The final two (very brief) 'papers' published are: *Cold Cathode Lamps for Show Cave Lighting* by Daniele Traferro, and *LED Lighting Systems for Show Caves*, by 'Germtec' (a German company). Both are effectively 'free commercial advertising'... In short, while not blessed with a plethora of papers, those included are of considerable merit, and several are truly definitive. Certainly, this volume should be in the library of every cave manager.



Bella, Pavel. (Translated: Peter Gazik). ***Slovakia Show Caves***. 2010. Slovak Caves Administration. Grafon. 64p. A5. Col. ISBN: 80-89130-09-7. **Reviewed by Professor Elery Hamilton-Smith.**



This book is directed particularly to cave visitors. Slovakia is remarkable in its diversity of geology and geomorphic features, with some 5,500 caves in various karsts, sandstones and a number of volcanic rocks. I was amazed at the remarkable beauty of the karst and caves when I visited the then Czechoslovakia in 1985.

But at that stage I was disappointed to find that although numerous cave enthusiasts were pressing on with exploration, research and conservation, the government did not recognize the potential value of the caves. Today, the Slovak Caves Administration maintains overview of the caves and leadership in

all aspects of speleology. Pavel Bella, as head of the Caves Administration is recognised as one the leading karst scholars of Europe and this is accompanied by his infectious enthusiasm. Twelve of the major show caves are covered in this booklet. Five of them are included within the trans-boundary World Heritage Site with Hungary.

Tourists are increasingly able to visit other caves within the WHA in what we would probably call geo-tourism, with the main emphasis upon extending their learning about the caves and their context. Each cave is described first in terms of its geomorphic context and other outstanding characteristics e.g., archaeology and biology, then its history of exploration and presentation.

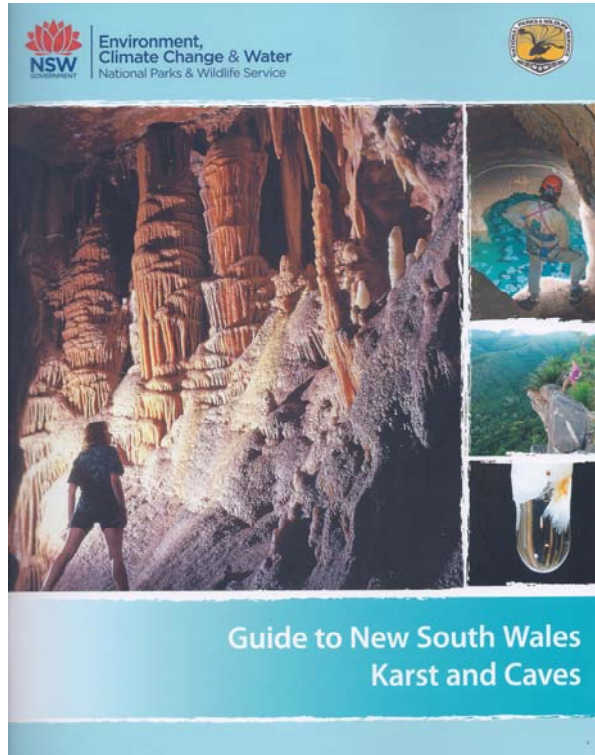
A map and a number of absolutely striking photographs, sometimes with explanatory text, then provide a great insight into the quality of the visitor experience. Perhaps the most wonderful of all the caves is Domica which extends under the national boundary into Hungary, where it is known as Baradla.

It is one of the great archaeological treasures of the world with many hundreds of cultural artifacts remaining from when the cave was occupied by successive cultures from the Neanderthal to modern man. humanoids and modern man. Ceramics were actually manufactured within the cave and there are many other objects carved from bones and rocks. These included weapons, tools, kitchenware and personal decorations, including fossilized woven fabrics.

Clearly, Slovakia this should be on any caver's wish list for future travel. But beyond this, Pavel's guidebook sets a standard to which other major cave parks should aspire to match.



**Guide to New South Wales Karst and Caves.** Karst and Geodiversity Unit, Department of Environment, Climate Change and Water NSW. 2010. ISBN 978 1 74232 547 7. 40 pp. Full Colour. **Reviewed by Sasa Kennedy.**



This handy 40 page booklet is a good introduction to the major karst areas of NSW, including some lesser known sites as well as the usual suspects including Jenolan and Wellington.

An overview at the beginning includes a karst location map of NSW; a dissertation on the value of karst and an explanation of the scale and uses of NSW karst areas, much of which will be familiar information to NSW cave managers, guides and cavers but of interest to a more general readership.

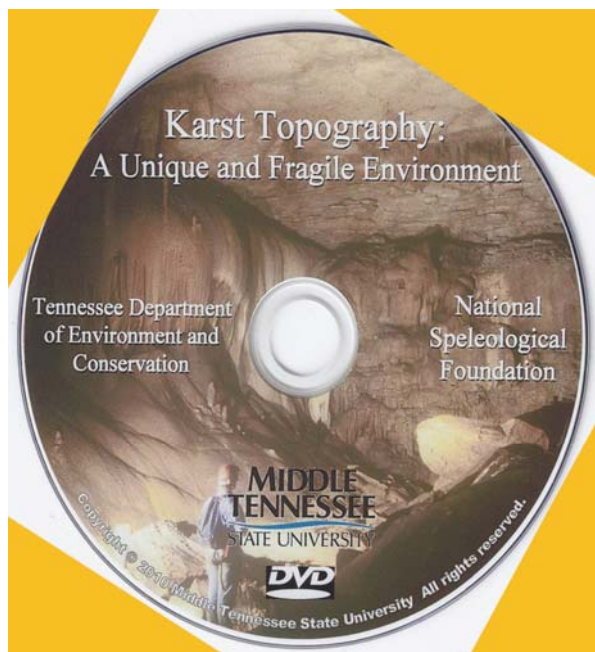
A section enticingly titled 'Role of Topography' sadly does not provide any illumination as to how topography affects the karst within it, but instead names the major topographic zones of NSW and some of the karst areas located within each. A section on 'Responsible Caving' does provide some basic safety procedures but, sadly, neglects to include any minimal impact practices.

Following the overview is a double page introduction to fourteen different cave or karst systems and a summary of lesser karst and cave features found in the state including sea, basalt and sandstone caves. The karst system information is well organised and informative. Each section includes location, access and service details; Aboriginal cultural connections; historical background and also the geological, geomorphological and ecological values of the area or reserve. These sections are full of interesting detail and are clearly presented.

The production values of the booklet are generally high, including many quality photos, though some sections require referencing. The booklet is suitable as an introductory tome and would certainly stimulate the interest of any reader with a casual interest in caves and karst. It would probably sell quite well as a souvenir at the state's show caves. However, if it is intended as an introduction to accessible karst areas, then minimal impact practices really should be included.

Its details on well known caves and particularly the info on lesser known areas are also of interest to a more specialised audience of cavers and karst managers. Its limited print run means you will probably need to download it from the website <[www.environment.nsw.gov.au/geodiversity](http://www.environment.nsw.gov.au/geodiversity)>.

**Karst Topography: A Unique and Fragile Environment Karst** – An Educational Video from the USA. **Reviewed by Andy Spate.**



A DVD produced by Professor A E Ogden, Department of Geosciences, Middle Tennessee State University with the support of the Tennessee Department of Environment and Conservation and the National Speleological Foundation.

As I was reading the October 2010 issue of the *NSS News* I noticed a short note from Prof Ogden headed *Karst Educational Video*. After I contacted Al he was kind enough to supply me with a few copies of the 18-minute DVD. These will be auctioned at the Tasmanian Conference in support of the ACKMA Life Member's Fund which supports student attendance at our conferences. To quote from his note:

*It covers caves and sinkhole origin, ground water contamination, sinkhole flooding, and sinkhole collapse. The video is professionally narrated and has many animations of the subsurface ...*

*It was made for teachers and professors who have limited time in their lecture to present a significant overview of the environmental problems associated with karst ... [and] to educate citizens [of Tennessee] at public meetings when new karst related regulations were to be enacted. [This new edition covers karst issues in other American states.]*

I enjoyed most of the video. I believe that the DVD can provide an insight into Australian and New Zealand use and abuse of karst terrains its utility (in the generally much dryer Australia at least) might be lessened by the lack of major springs and streams in our karst areas.

But even if we don't have the same amount of water splashing about on the surface we certainly have groundwater below and the concerns and principles that the DVD expounds have relevance in all karst terrains.

If introduced to audiences such as local government and schools with proper caution about the climatic differences it may well provide a useful method of conveying a conservation message. Its value will probably be greater in

Western Australia, Tasmania, South Australia and New Zealand and possibly some parts of New South Wales – where people actually live on karst. It may also provide a starting point for cave guide training.

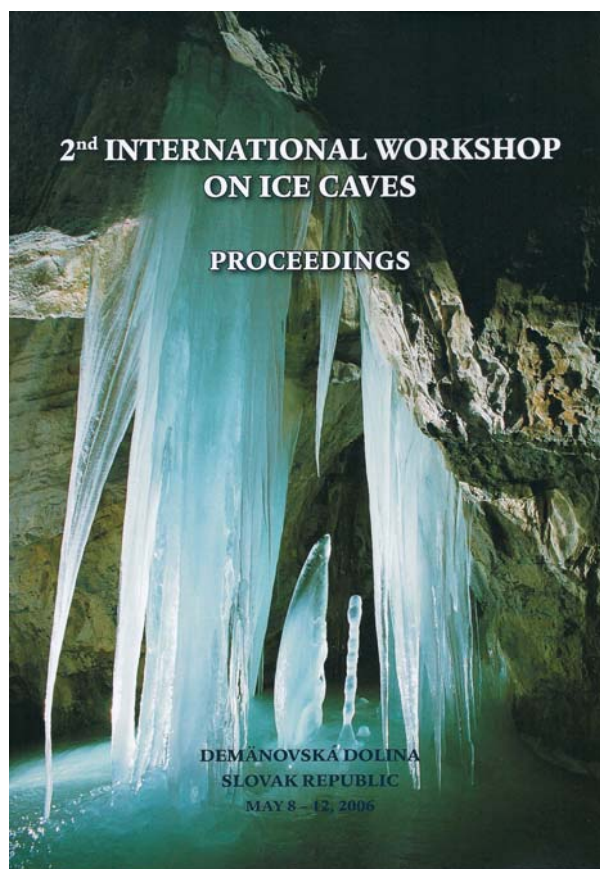
Prof Ogden will allow us to place it on our website – you can preview it on *YouTube* at the title above.

In an email to me, Al stated:

*Five years ago, I married a wonderful lady from the Philippines and I have spent nearly a year now and last year ... there to explore and map caves ... on the island of Cebu ... I also just bought a very tiny beach resort there with a few lodging facilities. I am about to retire in a year and build a small beach house there. I would like to offer the Australian cavers a free place to stay and much, much opportunities to explore caves in the mountains behind me. No other cavers have ever been to them. I also hope to visit Australia once over there ...*

So there is an invitation for all you fit and keen younger karst people!

Zelinka, Ján (Ed). **Proceedings – 2nd International Workshop on Ice Caves** (Slovakia, 2006), 108 p. A4. Colour. Slovak Cave Administration. 2007. Edited by ISBN: 978-80-8064-279-2. **Reviewed by Peter Buzzacott.**



IWIC-II was held in Demänovská Dolina in the Slovak Republic, in May 2006. The proceedings, in English, are soft cover bound, 103 A4 glossy pages with colour photographs and graphs. Fourteen of the seventeen papers are included and the editor's patience must have been thin by the time the last of these were submitted. The introduction laments 'repeated prolonged

deadline' and, no doubt due to the eleven nationalities represented, authors who did not respect the required format.

Despite these difficulties, the end product is an achievement the editor can be proud of. The papers themselves are technical and interesting, not least because ice caves are uncommon in Australasia but also because the accompanying photographs, graphs and drawings bring the scientific findings to life.

The ice caves reported are from Slovakia (8), Romania (2), Russia (2), Montenegro (1) and Korea (1). Studies include the use of georadar, isotopic identification of ice cores, crystal analysis of ice slices, seasonal air circulation measurement, temperature data logging, and tritium radioactive decay (tritium peaked in our atmosphere in 1963, before the Nuclear Test Ban Treaty).

People being as they are, some problems associated with tossing coins into Russian lakes inside Kungur Ice Cave are described. Copper is now present in all the cave's lakes and, due to an estimated 1.5 tons of corroding coins, zinc is found in the big lake.

The mysterious Ice Valley in Korea ices over in summer and blows warm air in winter, and this remarkable valley has seven mysteries addressed by a team from Korea, Japan and Mongolia.

Hibernating Slovakian bats make for a fascinating investigation before the proceedings end with a review of the lighting equipment in Dobšiná Ice Cave. Overall, these proceedings are well produced and make for interesting scientific reading.



Kadebskaya, Dr. Olga (Ed). ***Proceedings – 3rd International Workshop on Ice Caves*** (Russia, 2008). 128 p. Perm State University. ISBN: 978-5-7944-1116-4. **Reviewed by Peter Buzzacott.**

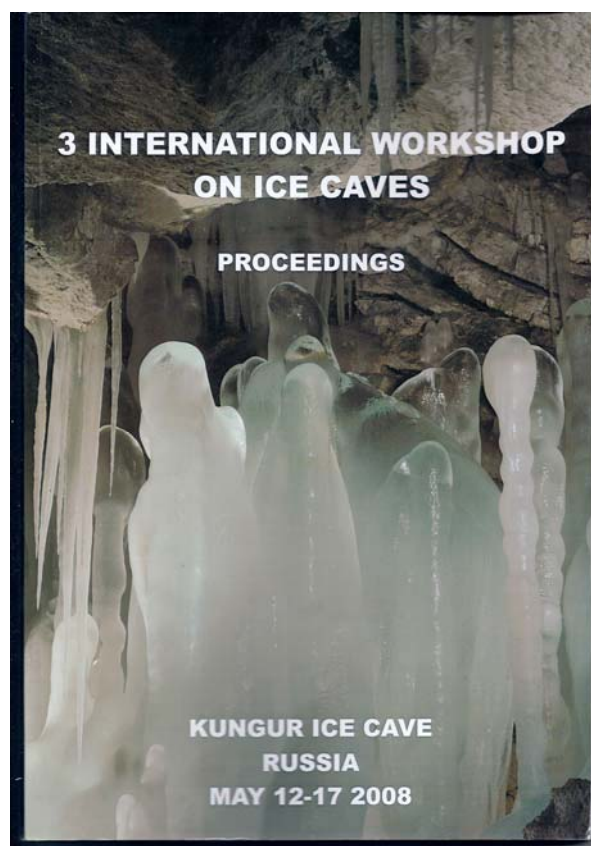
IWIC-III was held at Kungur Ice Cave, Russia, in 2008. The proceedings, in English, are 124 A4 pages, softcover bound and feature colour photography, drawings, maps and graphs.

The editor grapples with the finer points of English in the introduction but there is no hiding that famous Russian pride when extolling the success of the conference. Participants attended from 10 European countries, Russia and Korea and the caves featured reflect this distribution.

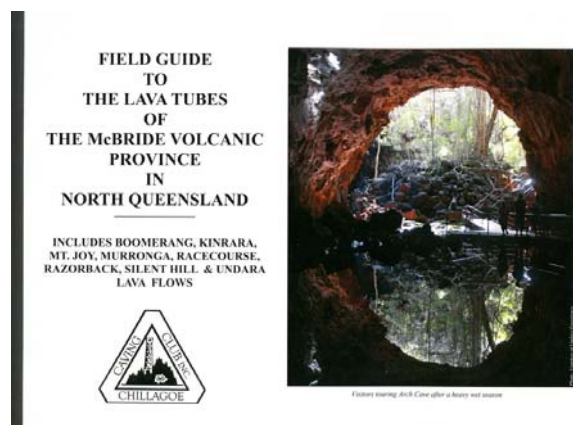
The scientific projects described include isotopic analysis of ice cores, ice dating and climate history, air temperature circulation within caves, geographic distribution of ice caves and cave glaciation, cave ice morphology and volume estimation, ice cave tourism and the '*Law on bowels in Russian Federation*', ephemeral mineral aggregations and ice cave mineralogy, cave diving the longest underwater cave in Russia (my particular favourite), and the papers round out with an analysis of tritium levels in Kungur Ice Cave, which have steadily fallen since mankind stopped blowing itself to all blazes with thermonuclear weapon testing in the sixties.

A collection of abstracts follow and the customary montage of conference photos conclude the volume. Recurring themes to strike a resonant chord with ACKMA members are the concerns expressed over cave litter, visitor impact in cave decoration (in this case, ice structures with even less resilience than our own formations) and the effects of localised deforestation upon cave hydrology.

This book will be of interest to the scientifically curious and, overall, the reader is left realising the issues we face in our Australasian bowels are universal: Conservation, Research and Tourism.



Pearson, Les. (Ed). ***Field Guide to the lava tubes of the McBride Volcanic Province in North Queensland.*** Published by Chillagoe Caving Club Inc., PO Box 92, Cairns Qld 4870. Price \$35 + \$3 postage and packing. 105 + iii pages; colour cover; numerous photos and maps. **Reviewed by Greg Middleton.**



After a bit of a long gap, this publication adds to the series of six (limited edition) speleological field guides published by Chillagoe Caving Club. Strictly speaking it replaces one of them, Mick Godwin's (long out-of-print) *Undara and associated lavafields of McBride Plateau speleological field guide* (1993). Mick's guide brought together the early work of Shannon, Grimes and Watt, combined with the systematic

work of Anne Atkinson in the 70s and the seminal contribution made by the members of the 1989 Operation Raleigh project, under Mick's supervision and guidance. While there is a wider coverage of caves in the 'new edition' (discoveries have been made outside the Undara flow since 1993), details of vegetation and land systems and sections on conservation and management have not been retained, although the historical section has been expanded. (The vegetation information is planned to be the subject of a future *Tower Karst* occasional paper.) There is an overview of the progressive reservation of the lava province (Undara Volcanic National Park and seven other reserves) and the development of tourist facilities. Virtually all of Mick's cave descriptions and maps have been retained, along with his silhouettes of cave entrances (from the inside looking out) – though these have been reduced to the point where they may be of little value.

Where this guide really shines is in its lava flow maps and aerial photo-maps, painstakingly prepared by CCC's Mapping and Survey Co-ordinator, Peter Bannink. These maps have a

clarity which is immediately striking, even by modern standards of digital cartography and high-quality printing. Most innovative and informative are the aerial photo-maps on which major features are indicated and 20 m contours have been superimposed. Of particular interest is an aerial photo of the terminal section of The Wall – subject of ongoing controversy as to its genesis and significance – showing some of its features.

The introduction explains the geological situation which is complicated by the fact that within the 5500 sq. km. McBride Volcanic Province there have been at least nine eruptions during the past million years or so, most recently that from the Kinrara Crater, perhaps only ending as recently as 13 k years ago. The major flow, dated at about 190 k years and containing the majority of caves, is Undara which, at about 160 km, is the longest lava flow in Australia – and the world, if only ‘young’ flows are considered. More information than in the 1993 guide is included on the lesser-known flows: Murronga, Racecourse, Boomerang, Mt Razorback, Silent Hill and Mt Joy. The bulk of the guide is taken up with details of each of the recorded caves (87 in all, though one of these, rather carelessly, seems to have been lost!)

The details provided include grid references, together with locations shown on the aerial photo-

maps – and herein lies a problem for the publishers. Making such detailed location information public is contrary to accepted practice by ASF and its affiliated societies (except for tourist caves and perhaps those under threat of destruction) so CCC intends to restrict sales of this guide (as with its others) to ‘members of the Australian Speleological Federation and like bodies who are concerned about the care and conservation of caves and their scientific study’ (presumably this includes ACKMA and academics but it may be a difficult policy to enforce). If you send you money for a copy don’t forget to specify your affiliation.

While not normally a fan of landscape publications (i.e. bound along the short side – though I’m not sure of the longevity of the ‘perfect binding’ – glue – used in this case), I can see this format does have its advantages for a publication of this type, permitting a panel of text beside each cave map. It would also work very well on a computer screen, if a digital version were to be made available.

This is an excellent guide to the lava caves of Undara and the other flows of the McBride Province – and a credit to the editor, cartographer, others who contributed and CCC generally.

Hilton-Barber, Brett and Berger, Lee R. **Field Guide to the Cradle of Humankind: Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai, and Environs**, 2004, (2nd revised edition). Struik Publishers, Cape Town, 222 pages. **Reviewed by Andy Spate.**

Kirsty and I visited the UNESCO World Heritage property formally known as the Fossil Hominid Sites of Sterkfontein, Swartkrans, Kromdraai and Environs but better known as the Cradle of Humankind as a finale to our visit to South Africa and Cango Caves. And an impressive place it is!

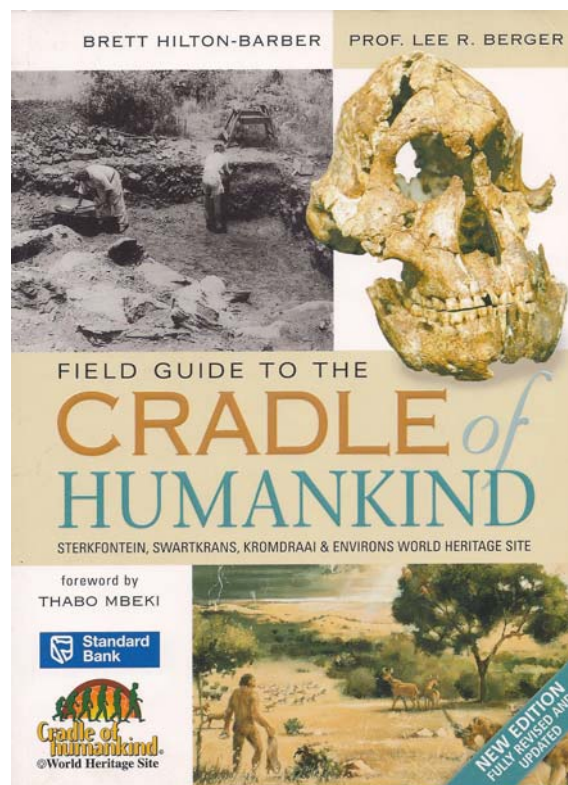
To quote from the introduction to the Field Guide:

*The 47,000 hectare Cradle of Humankind is a unique location blessed with a greater wealth of the prehistory of humankind than almost any other place on Earth. ... the Cradle contains more than 12 major fossil sites and dozens of minor ones that present us with and intriguing mixture of mystery and revelation about much of our ancient past.*

The mainly privately-owned property was listed as World Heritage in 1999 with the ‘environs’ including the Taung and Makapan Valley sites added in 2005. The site contains many fossils of hominids and their tools dating back some two million years. Indeed, there is some evidence that tools were being used by precursors of our genus, *Homo*. It also has evidence of modern prehistoric sites right up to and beyond the Iron Age – an impressive period of use of one area. To quote again from the Guide:

*The fossils themselves are extraordinary – not only the individual pieces, but the sheer volume of fossil fragments that has emerged from the various sites. More than 1,000 hominin fossil fragments, several hundred thousand animal*

*fossils, 300 fragments of fossil wood and over 9,000 stone tools form a vast, multi-dimensional and continually expanding jigsaw puzzle. These finds provide a compelling picture of the last 3.5 million years of South African prehistory.*



Most of the sites are either in caves or in unroofed caves (where the overlying dolomite has been removed by erosion). The dolomites are around 2.5 billion years old and contain stromatolites.

Clearly they are analogous to the dolomites in northern Australia such as the Supplejack member of the Skull Creek Formation at Bullita in the Northern Territory.

To turn to the Field Guide – it is very comprehensive, profusely illustrated with diagrams, sketches and photographs. It is a trifle disjointed with many breakouts and boxes.

Many of these are biographical sketches including that of the other Australian connection to the site – that of Dr Robert Broom who described the mountain pigmy possum, *Burramys parvus*, from an unroofed cave at Wombeyan Caves.

As an example of the disjunct nature of the text, four pages of discussion on the cave-forming dolomites are broken by two pages discussing the Vredefort Meteor Impact site (itself World Heritage) 200 km away to the south.

The only connection to the Cradle appears to be in the impact provided protection by burial of the rich gold seams in the Witwatersrand region.

However, it was the gold that attracted the miners to the caves in the Cradle in their search for speleothems as a source of calcium carbonate as a flux for refining their gold. And it was the miners who dug up the cave fills that held the fossils!

The Field Guide is well worth its price (210 rand ~ \$A31 – especially considering that I bought the first, much smaller edition for about half that price in February 2010 – the second edition was clearly hidden!).

When we were at the Cradle of Humankind last year we visited only Sterkfontein Cave – the site of many important fossil discoveries – and the nearby Maropeng Visitor Interpretive Centre.

The cave was spectacular, not overly decorated unlike the nearby Wonder Cave which to judge by the photographs in the Guide is very richly decorated indeed.

Maropeng is an amazing structure containing much of very great interest. To quote from its website:

### **Going underground**

To get to the tumulus [tomb mound often containing masonry; OED; the centre building itself], visitors move through a sunken marketplace, a site of excavation where hundreds of Stone Age tools were found during the construction of Maropeng.

The marketplace has a ticket office and restaurant, as well as a curio shop and a number of craft stalls.

Inside the tumulus, the voyage of discovery begins with a journey going back four billion

years in time to the formation of our planet. The visitor is then taken on a multisensory boat ride on an underground lake, experiencing the elements of water, air, fire and earth coming together in the formation of our planet.

### **The theatre of life**

At the end of the boat ride, the visitor begins the journey back to the present, tracking the path of life from the single-celled organisms of four billion years ago to the complexity of flora and fauna that we know in the 21st century.

The ***Birth of the Cradle*** exhibit explains how the fossil caves were formed, the emergence of life on earth and the concept of evolution as a science.

The ***Path to Humanity*** explores human evolution, with models of five types of hominins on display.

***What it Means to be Human*** looks at how humanity has evolved, from our shared characteristics to manifestations of humankind in all in its diversity across the world today.

***The Science Zone*** is where you'll find how various thinkers arrived at the conclusions that govern our understanding of the world today.

***Sustainability*** examines how we have modified our environment to suit ourselves and how, if we continue to ignore the negative consequences of our impact on the world, we could contribute to the destruction of ourselves or even the entire world and all its beauty and diversity.

You'll also find original fossil finds on display, evidence of the uniqueness of the Cradle of Humankind World Heritage Site as a source of information about our origins as a species.

More than anything, Maropeng captures the significance of Africa as the ancestral home of all humankind, regardless of our colour, culture or beliefs.

Although the building and its contents are stunning, we chiefly remember the rather kitschy boat ride and the noise in the display halls – many loud noises emanating from the various exhibits.

But a great book and a fabulous place. You need more than a day trip from Johannesburg to appreciate this site – there is an enormous amount to see and do.

And what better time than now to thank Hein and Andia again for facilitating our visit to South Africa.





A postcard of circa 1900 showing a scene painted ~1884 of the Grottenfest in Postojnska Jama (Adelsberger Grotte or Postojna Cave), an annual event when there was music, dancing and drinking in the celebrated cave. One of many historical illustrations in Dr Shaw's latest book.

Shaw, Trevor. **Aspects of the history of Slovene Karst 1545-2008**. 306 pp., 203 b&w and colour illustrations; paper cover. Price €24.00. ZRC Publishing, Novi trg 2, PO Box 306, SI-1001 Ljubljana, Slovenia. **Reviewed by Greg Middleton.**

It seems the ink has hardly dried on Dr Shaw's *Foreign Travellers in the Slovene Karst 1486-1900* (2008) (reviewed ACKMA J., 74: 41-42) before he has produced yet another remarkable compendium of Slovene cave history. 'Aspects ...', as he writes in the foreword, 'presents the results of recent research into diverse aspects of the history of Slovene caves and karst – myth, music, museum and mis-use (of stalagmites), as well as exploration, publicity and tourism.'

Diverse is certainly the only way to describe this collection of writings on: comparisons of Postojna Cave with other 19th century European tourist caves, Postojna Cave in popular books of the 19th century, music performed in Postojna, underground post offices in the cave and postal publicity for it (1922-37), glass oil lamps used to light it, a planned cave museum or institute at Postojna before the First World War and the likely location of a drawing by Valvasor in 1689. Looking further afield, there is a scholarly discussion of a 1580s poem about the disappearing karst lake of Cerknika, a 1758/61 book about the same lake and a 1777 book by the same author featuring numerous engravings of the lake and caves in the region. A chapter describes the wholesale (both legal and illegal) removal of speleothems from Postojna and other Slovenian caves – for sale to tourists, to be given as souvenirs to distinguished visitors, by visitors, for official presentation to museums and schools (partly for educational purposes, but also for publicity!), and to adorn public parks, railway stations and memorials. In the 1950s slabs of flowstone were used to line corridors in the parliament building in Ljubljana. An alpine club excursion to Škocjanske Jame in 1891, involving

between 300 and 700 participants, is described in detail from a participant's scrap-book and photos, together with another in 1885. The extraordinary exploits of Leopoldine ('Poldi') Fuhrich, 'probably the first woman to take part in specially difficult exploration, some of it original, in many caves', at Škocjanske Jame in 1921 and 1922 are described. She was a key member of the team that explored the great Eisriesenwelt ice cave in Austria and died, aged only 28, in Lurgrotte in Austria.

Perhaps the most unusual item in this book, written in collaboration with British classical scholar James MacQueen, is a discussion on whether the mythological Greek Argonauts were supposed to have travelled underground (with their boat!) through the Slovenian karst. The analysis of various 'accounts', together with inscriptions on maps dating from the mid-16th century, builds into an intriguing tale, showcasing Shaw's remarkable ability to ferret out facts about caves and piece them together, even from the most ancient accounts, maps and, in this instance, myths.

Each chapter is rigorously backed-up with numerous notes and references (over 200 in the case of the first chapter) and there is an adequate index. The book is profusely illustrated, wherever possible in colour, and the printing is of the highest quality.

One might not have expected Australia to get a mention in this book but there are at least two. Reference is made, in the chapter on music in Postojna Cave, to the fact that Abercrombie Caves

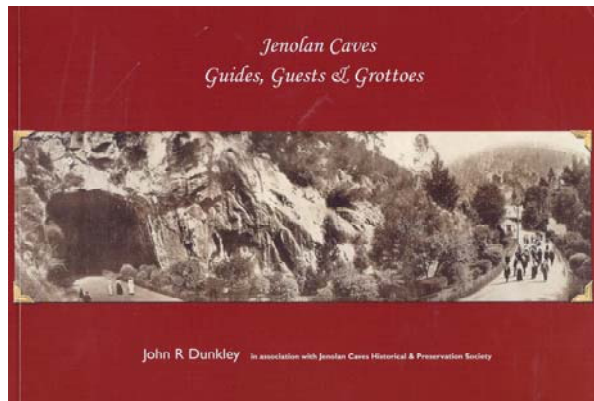


in NSW had a 'dancing platform' erected in 1860 and replaced in 1880 where, the author (correctly) assumes, music was performed for dancing. Shaw can be forgiven for not picking up on a similar structure built in the Grand Arch at Jenolan in 1869 and the later tradition of 'Smoke Concerts' there and more recent more elaborate musical presentations in the caves. Jenolan gets a mention in the chapter on the underground post

offices in Postojna, where it is acknowledged that the Jenolan P.O. opened in 1898, a year before that in Postojna, but was not underground.

This book continues Shaw's practice of progressively raising the bar in the production of exemplary works on cave history – focusing on, but not limited to, Slovenia, his second home.

Dunkley, John R. (in association with Jenolan Caves Historical & Preservation Society). *Jenolan Caves – Guides, Guests and Grottoes*. Australian Speleological Federation Inc., 2007. 73 pages in landscape format (250mm x 170mm), plus colour cover. Price \$19.95 + postage. Available from the souvenir shop 'Things Jenolan' in the Jenolan Caves House (Phone: +612 6359 3976). **Reviewed by Warren Peck.**



Those interested in Australian Heritage will find that this book provides fascinating reading about the first century of white visitors to Jenolan Caves from the 1830s until about the 1940s, because it allows the writers from that period to provide the main narrative. The contemporary photographs and engravings enhance the text. The author, John Dunkley, points out that Jenolan is 'a whole village with tortuous access roads only 120km west of Sydney, with its own school, post office, hotel, market gardens and 200 people, built entirely to service some of the world's finest caves.'

'Nestled at the bottom of a deep, narrow valley 500m below the surrounding countryside on the very edge of the Dividing Range, Jenolan Caves lay unknown for many years after the first white crossing of the Blue Mountains. How did people find their way to this hidden world to reveal its secrets? What was it like to explore for new caves? How did visitors cope before there was a hotel, electricity or even a road?'

The book convincingly responds to these questions. After concisely describing Jenolan's discovery, a major section of the book is devoted to 'The Government and the Guides' under the four chapter headings *Protecting*, *Touring*, *Exploring*, and *Publicising*. The next major section deals with 'The Guests' under the four chapter headings *Pioneering*, *Travelling*, *Staying* and *Mass Tourism*. 'The Grottoes' is the third major section and deals with *The Natural Arches*, *Lucas Cave*, *Nettle and Arch Caves*, *Imperial Cave* and *River, Orient and Temple of Baal Caves*.

Since a substantial amount of relevant documentary and photographic material is available on these topics, John Dunkley had the

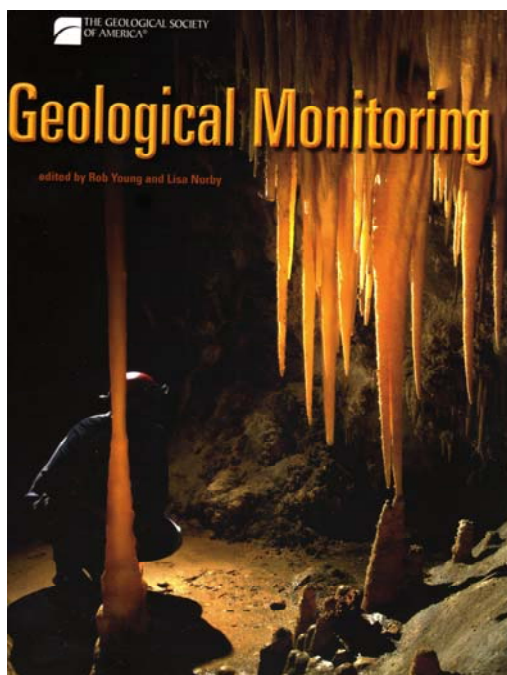
difficult task of deciding what information to include and what information to omit. It would not be surprising if other Jenolan enthusiasts were to disagree with some of his choices for omission, even though they thoroughly enjoyed reading this book.

For example, this reviewer is a little disappointed that the legend of Wiburd's Lake Cave – a 'hot topic' of discussion in the 1950's at Jenolan – is not discussed in John Dunkley's book, despite the legend's relevance to the pre-1940 period. Little has been said about the September 1878 report by Surveyor Adams that resulted in the immediate fixing of iron gratings and iron doors in the entrances of the Lucas and Elder Caves to prevent public entry except when accompanied by a guide. Adams recommended the replacement by steps of the existing wire ladders in the caves, which was done from December 1879 to March 1880. The Adams Report also recommended that the caretaker, Jeremiah Wilson, should actually live at the caves because of the expected increase in visitor numbers once the first road into Jenolan was completed (April 1879). Wilson moved to Jenolan and by 1880 had completed the first Caves House.

Mention should be made of the historian Ward L. Havard, who published a history of Jenolan under the title 'The Romance of Jenolan Caves' in the *Journal and Proceedings of the Royal Australian Historical Society*, Vol. XX, Part 1, 1934. A cave enthusiast and resident of Katoomba, he was well known to J.C. Wiburd, Oliver Trickett and senior executives in the N.S.W. Government Tourist Bureau for his historical research. In 1928 Havard advocated the unveiling of a plaque to commemorate the 50<sup>th</sup> anniversary of the discovery of the Imperial Cave (February 1879). The NSW Government further developed the concept, so that the plaque that was unveiled in the Grand Arch on 23 February 1929 commemorated the discoverers of the major caves and the work of Oliver Trickett. By the time Havard published the results of his research in 1934, it had become apparent that two of the dates on the Grand Arch plaque were incorrect.

I strongly recommend this book to all persons interested in Australian Heritage. It is easy to read and provides a most valuable insight into karst exploration, management and tourism during the period 1830 – 1940 at Jenolan.

Young, Rob and Norby, Lisa (Eds), **Geological Monitoring**, 2009, published by the Geological Society of America, Boulder, Colorado, 305 p. **Reviewed by Andy Spate.**



Whilst reading the August 2010 edition of Journal of Cave and karst Studies (NSS) I spotted a review by Art Palmer of this book. Its cover sports an attractive photograph of part of Carlsbad Cavern taken by my alleged long-lost twin brother, Ron Kerbo – US Park Service Cave Specialist.

Ah ha! Judging from the review this is a book well worth a look at – and, with the Aussie dollar on par with the greenback, \$80 didn't sound so bad. So I placed an order ...

To quote the first and last paragraphs of Art Palmer's review:

- Aeolian
- Coastal
- Fluvial
- Geothermal
- Glacial

So the book may have relevance to other resource managers in your various organisations and authorities. Certainly those chapters where I have a little knowledge such as coastal, fluvial, slope-movement and so on will have relevance to local practitioners. The book is well illustrated with diagrams and many colour photographs. However the binding is very poor – I have pages coming loose after only a few examinations. There are comprehensive sets of references for each chapter – aimed at methodologies rather than pure science. Of the 75 references in the caves chapter, five come from Australasian workers – three of

- Cave Meteorology
- Airborne Sedimentation
- Direct Visitor Impacts
- Permanent or Seasonal Ice
- Cave Drip and Pool Water
- Microbiology
- Stability-Breakdown, Rockfall

*This is a guide for resource managers who need to establish the status of geological features and the effects of process affecting them on the lands they supervise, Funded by the Geologic Resources Division of the National Park Service and published by the Geological Society of America, it has strong credentials. This is not a guide to inventorying resources, but a description of methods for their long term monitoring. Methods of studying the most common geological features are described, with case studies.*

... This book is not designed for entertainment, nor is it an introductory text. Appropriately, the arrangement is formulaic, as in a cook-book. Those who need it are resource managers who desire a guide to establishing their own programs and strategies. Students and researchers can also learn of potential projects, measurement techniques, and approaches to data analysis.

The book consists of an introduction, followed by twelve chapters each prepared by separate authors – the second of which is titled *Geological monitoring of caves and associated landscapes*.

This chapter runs to 19 pages – significantly shorter than the average of about 26 pages for the other eleven chapters. The author, Richard S. Toomey III is from the Mammoth Cave International Center for Science and Learning at the Western Kentucky University.

With one exception, Permafrost, the remaining chapters have relevance to Australasia. They deal with features and processes in the following fields:

- Marine
- Paleontological
- Seismic
- Slope-movement
- Volcanic

whom are ACKMA members. Others such as Arrigo Cigna, Tom Aley, Carol Hill, Paulo Hill, Val Hildreth-Werker and Jim Werker are well known to us.

Whilst I would not have called the arrangement of the chapters as like a 'cook-book' they do have a similar structure and approach listing a series of so-called 'Vital Signs' followed by suggested monitoring methodologies at increasing levels of intensity and sophistication (and presumably cost). The Vital Signs addressed in the caves chapter are:

- and partings
- Mineral Growth
- Surface Expressions and Processes
- Regional Groundwater Levels and Quantity
- Fluvial Processes (short as it overlaps with the chapter on fluvial features)

Note that the issue of cave invertebrates (and indeed vertebrates) is not addressed.

The chapter ends with a table listing the Vital Signs, the methodologies, expertise, personnel and special equipment that is required, a generalised cost estimate and an estimate of the labour intensity required. The table accompanies this review.

The chapter provides a good start to those interested in monitoring their cave and karst environments. Many of the references relate to the NSS's 2006 invaluable *Cave Conservation and Restoration* book edited by Val Hildreth-Werker and Jim Werker – recipients of the ACKMA *Outstanding Contribution to Cave and Karst Management Award* in 2007 at the Buchan Conference.

I hope you all have this book by now – a good time to get it with the dollar at the current level. Get it at <<http://nssbookstore.org>> for \$33 plus postage.

All in all it is a useful book even if I felt that the cave and karst chapter is not as comprehensive as I would have wished. It can be purchased from the GSA at <[www.geosociety.org/bookstore](http://www.geosociety.org/bookstore)>. I contacted Gary Lewis (who ACKMA members will recall was the driving force, with Jo Ingarfield (now Vincent), behind the *Discovering Caves* Education Kit produced by the then Australian Geological Survey Organisation (now Geoscience Australia) in 2000 who is now Director, Education & Outreach, Geological Society of America. He has provided me with a pdf of the caves chapter which I will ask Rauleigh to add to the Members Only area of the ACKMA website.

TABLE 1. SUMMARY OF CAVE VITAL SIGNS AND MONITORING METHODS

Vital signs and methods	Expertise	Special equipment	Cost*	Personnel	Labor intensity <sup>†</sup>
<b>Cave Meteorology</b>					
Spot measurements with generally available hand-held instruments	Volunteer	No	\$	Individual/ small group	Low/medium
Common data loggers and probes	Volunteer/scientist	Yes	\$	Individual	Low/medium
Specialized precision instruments/data loggers	Scientist	Yes	\$\$	Individual	Medium
Specialized meteorological instrument networks	Scientist	Yes	\$\$-\$\$\$	Individual	Medium
<b>Airborne Sedimentation</b>					
General characterization of lint removal activities	Volunteer/scientist	No/Yes	\$-\$\$	Individual	Low /High
Analysis of dust/lint accumulation plates (field work)	Volunteer	No	\$	Individual	Low
Analysis of dust/lint accumulation plates (analysis)	Scientist	Yes	\$\$-\$\$\$	Individual	Medium-high
Analysis of airborne dust/lint	Scientist	Yes	\$\$-\$\$\$	Individual	Medium
<b>Direct Visitor Impacts</b>					
Visitor counts (tickets, permits, registers)	Volunteer	No	\$	Individual	Low
Visitor counts (data loggers)	Volunteer	Yes	\$	Individual	Low
Photomonitoring	Specialized volunteer/scientist	No	\$-\$\$	Individual/ small group	Medium-high
Formation breakage counts	Volunteer	No	\$-\$\$	Group	Medium-high
Visitor impact mapping/inventory	Specialized volunteer	No	\$-\$\$	Group	Medium-high
Sediment compaction	Scientist	Yes	\$	Individual	Medium
Time-of-flight laser or LIDAR scanning	Scientist	Yes	\$\$\$	Group	High
"Lamp flora" mapping	Volunteer	No	\$	Individual/ small group	Medium
<b>Permanent or Seasonal Ice</b>					
Manual measurement of thickness or extent	Volunteer	No	\$	Individual	Low
Photomonitoring	Specialized volunteer/scientist	No	\$-\$\$	Individual/ small group	Medium-high
Time-of-flight laser or LIDAR scanning	Scientist	Yes	\$\$\$	Group	High
<b>Cave Drip and Pool Water</b>					
Manual monitoring with handheld instrumentation	Volunteer	Yes	\$	Individual	Medium-high
Automated monitoring with datalogged instrumentation	Volunteer/scientist	Yes	\$-\$\$	Individual	Low
<b>Microbiology</b>					
Develop and implement specialized site-based monitoring	Scientist	Yes	\$\$\$	Individual	Medium-high
<b>Stability – Breakdown, etc.</b>					
Record breakdowns	Volunteer	No	\$	Individual	Low
Manual crack monitoring	Scientist	No	\$	Individual	Medium
Mining engineering stability techniques	Scientist	Yes	\$\$-\$\$\$	Individual	Medium-high
<b>Mineral Growth</b>					
Manual seasonal mineral presence mapping/inventory	Specialized volunteer/scientist	No	\$	Individual	Medium
Photomonitoring/impact mapping of staining/color changes	Specialized volunteer/scientist	No	\$-\$\$	Individual/ small group	Medium-high
Time-of-flight laser or LIDAR scanning	Scientist	Yes	\$\$\$	Group	High
<b>Surface Expression and Processes</b>					
Spring water quality and quantity	Specialized volunteer/scientist	Yes	\$-\$\$	Individual/ small group	Medium-high
Remote Sensing (LIDAR, aerial photography, thermography)	Scientist	Yes	\$\$\$	Individual	High
<b>Groundwater Levels and Quality</b>					
Spot monitoring of wells	Specialized volunteer/scientist	No	\$	Individual	Medium
Monitoring of well chemistry	Specialized volunteer/scientist	Yes	\$-\$\$	Individual	Medium-high
Automatic monitoring of groundwater levels in wells	Specialized volunteer/scientist	Yes	\$-\$\$	Individual	Medium-high
<b>Fluvial Processes</b>					
See Lord et al. (this volume) for information on monitoring cave streams					

\*Cost (US\$): \$ = <\$1,000, \$\$ = \$1,000 to \$10,000, \$\$\$ = >\$10,000

<sup>†</sup>Labor intensity: low = <few hours; medium = <full day; high = >full day. Labor intensity will often vary greatly depending on size of cave or cave area being monitored.

LIDAR—light detection and ranging.



Zajiček, Petr (Images and Text) and Cílek, Václav (Epilogue text). **Moravian Karst – The Strange Underground World of the Czech Republic**. Kant 2007. 101 pages. ISBN 978-80-86970-42-4. **Reviewed by Ted Brattstrom.**

'We can see what the water has left in the stone...'

Drive fifteen kilometers north of the city of Brno in Moravia within the Czech Republic and you will find yourself in the heart of the Moravian Karst (Moravský Kras). This region is composed of a thousand spectacular caves and chasms formed of Devonian limestone and modified by water over time.

Moravian Karst is essentially a tourist momento/coffee table picture book with adjoining text. Each dual page spread typically carries a large photo, a small photo and a few paragraphs to compliment and expand on the imagery. After quickly covering the geology of the area, the author moves into the human discovery and exploration of the caves. Several old drawings and a reconstruction of a diving set-up for early investigations, start out the speleological investigation section and several unique historical points were made. For example, at the Macocha chasm, the site of a high cliff and a cave complex, a 'suicide extractor' was the job description of one individual until 1910. On a similar dismal note, the cave section known as Výpustek was mined for phosphate; afterwards, cave bear skeletons were extracted. Later, the cave was used as a Czechoslovakian army ammunition warehouse between WWI and II and became a NAZI airplane motor factory during the war. In the Cold War era, Výpustek was turned into an atomic bomb shelter and backup command station! Today, it is one of the many show caves of the Moravian Karst.

The book continues on to describe a variety of cave features and formations. As most of these cave systems are high energy; passageways, sumps and underground rivers play a major role in the appearance and presentation of the caves. These features also created challenges during discovery and mapping processes - requiring diving, excavating and even draining sections of the caves.

The photography and printing is generally good. Some of the cave formations imagery is inspirational. The cave features are nicely lit and framed, with some as documentation and others with a more artistic bent. A few images should have been processed a bit and a couple didn't quite make the statement the author probably intended. I particularly enjoyed the images of the ice stalagmites as well as the pair of images contrasting the 18th century view of Výpustek with the current Cold War overlay.

Most of the caves described and shown in Moravian Karst are show caves, with walkways and even boat rides on subterranean rivers. Sluice gates keep the river levels stable; however, there are times of the year when the caves may be closed due to flooding.

There are two faults I find with the book, minor as they are. First, is the absence of a map or two to orient the reader to the country and location of the karst area. I had to check a few websites to get a fix on the location and relationships. The second fault, I'm of two minds on. In the text, the caves and other features were named in Czech as well as in English; however, on a few occasions, names were only in Czech. This was somewhat distracting. I would have liked a short Czech pronunciation guide! Just how do I pronounce 'Jeskyně' (cave)?

This medium sized, 101 page, hard cover book would make a very nice addition to any caver's library and generates all sorts of excuses to go there and visit. For those of us unable to travel there at the moment, Moravian Karst by Petr Zajiček, provides views and personal commentaries that can take us there in our minds. The book has definitely provoked thoughts and plans of a future trip to Moravia.

#### Some reference sites:

*Cave Administration of the Czech Republic:*

<<http://www.jeskyne.cz/?lang=en>>

*Czech karst map:*

<<http://www.jeskyne.cz/en/administration/karst-and-caves/>>

