



## The ACKMA Journal

Official Publication of the Australasian Cave and Karst Management Association Incorporated

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The opinions expressed in the ACKMA Journal are those of the individual authors and not necessarily those of ACKMA Inc. or its officers.

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**Front cover:** Cave shield, Cango Caves, South Africa

**Photo:** Steve Bourne

**Back cover:** Top. Greg Middleton in a cave at Benaka, Madagascar. Bottom. Avens with golden droplets caused by bacteria. Beanka, Madagascar.

**Photos:** Steve Bourne

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## IN THIS ISSUE

Editorial - Steve Bourne	Page 3
Presidents Report - Dan Cove	Page 6
Caves and Mines of the Peak District, UK - John Brush	Page 8
Caving in Madagascar - Steve Bourne	Page 16
Introduction to ACKMA Rules - John Brush and Dave Smith	Page 25
Cango Caves - Steve Bourne	Page 26
Germany and UK sites - Cath Loder	Page 31

## FROM THE EDITOR

The ACKMA AGM at Capricorn Caves, Rockhampton is fast approaching. I am booked and ready to go, and I hope many others are too. I especially hope that managers take advantage of the Caves Guides workshop planned by Ann Augusteyn and her team. I have been on a few caves tours in the past 12 months, both in Australia and overseas and the need for good guide training still remains. I was particularly disappointed in a tour I took at Sterkfontein Cave in the Cradle of Humankind World Heritage Site in South Africa. The tour started in excellent fashion above the ground explaining hominoid evolution using some props along the pathway, but once we reached the cave reverted to the old standard fantasy of elephants, gnomes, and various parts of the human anatomy. The tour concluded with an invitation to rub either the nose or hand of a sculpture of Robert Broom. One was for luck and one was for knowledge, but if you rubbed both neither would be granted. By the polish on poor Robert's nose, it seems most people chose to rub his large facial appendage.



Guide with the Robert Broom sculpture,  
Sterkfontein Cave.

Photo: [www.maropenq.co.za](http://www.maropenq.co.za)

Everywhere I travelled on my trip through South Africa, from the Cradle of Humankind, the Florisbad fossil site, the West Coast Fossil Park, through the Karoo and the museum in Cape Town, Robert Broom's name came up. All South Africans were surprised to learn that Broom started his career in fossils in Australia at Wombeyan Caves, New South Wales, and is perhaps best known for describing *Burramys parvus*, the Mountain Pygmy Possum from fossil material before it was found as a still extant species.

An interesting research project has started at Naracoorte. Student Emmi Scherlies is undertaking her PhD studies on *Miniopterus orianae bassanii*, the

Southern Bentwing Bat. Emmi is looking at population dynamics and survival rates of juveniles. She aims to inject passive integrated transponders (PIT tags) into 2000 bats; half this year and the balance in January 2017. The project pushes the limits of the technology and if successful, will give information on bat movements to and from Bat Cave, Naracoorte and survival rates of the species. This project is being supported by the ASF's conservation fund. I watched



Emmi Scherlies (left) and volunteer Rose Thompson PIT tagging bats.

Photo: Steve Bourne

the process one evening and admire the dedication of a bat researcher who needs to work all night when the bats are active. The tagging required 3 weekends with each night of tagging finishing as the sun was about to rise. Terry Reardon and I took a series of in flight photos of these bats about 10 years ago, and the images are used everywhere (even on Slovenian stamps - see ACKMA Journal no. 97). We took some new images one evening, one of which appears below.



Southern Bentwing Bat

Photo: Steve Bourne and Terry Reardon

A workshop was held very recently at Naracoorte regarding a new Cave Access Policy. Manager Deborah Carden and Executive Officer Amy Macken circulated the proposed new system which will replace the current cave classification system based on the Worboys model introduced through ACKMA many years ago. I had reservations of what is essentially a user based system, but after the workshop, which increased my understanding of how it will be used, I think it will be a useful system. A working group has been established to continue the work and classify caves which have been added to the park. Further reports on this project will appear in the journal in the future.

While on Naracoorte, some good news on the funding front. The seven year planning process which has produced the Visitor Strategy, Brand Strategy and Interpretation Framework and a Master Plan has the park in a good position to attract funding. The park has gained \$1.2M from the Tourism Destination Driver Infrastructure Fund, a joint Australian and state governments initiative. Deborah Carden reports that the projects that will be delivered are the upgrade of the Caves Loop walk to a standard that provides for wheelchair access and viewing platforms at cave entrances, and the upgrade of the car park at Victoria Fossil Cave. A quick search found that Kelly Hill Caves on Kangaroo Island also attracted funding for a walking trail while in Western Australia, the Augusta Margaret River Tourism Association, which operates Jewel, Lake and Mammoth Caves, received funds for its lighthouse project. Queensland funding from this initiative has gone to strategic industry projects such as WiFi capacity for information centres and capacity building. I haven't been able to locate what other states have allocated their funds to and would be very interested to receive articles on successful cave projects.

Anne Augusteyn from Capricorn Caves has provided images of their Christmas celebrations. This annual event, Solstice Santa, at the cave must be quite a spectacle.

*Every December and early January, the sun's rays pierce the darkness of the Belfry Cavern through a natural vertical shaft at Capricorn Caves, Rockhampton, Queensland. This is due to the alignment of the sun and earth over the Tropic of Capricorn. This brilliant natural solstice light spectacle, enhanced by disco mirror balls and other props, attracts visitors from all over the world.*

*But in 2015 all props were eclipsed by the appearance of Santa abseiling the shaft on the longest day of the year, 22<sup>nd</sup> December. Children were spellbound as this truly had to be the real Santa chimneying down a shaft. What we do for media attention and promotion.*

*Solstice Santa at Capricorn Caves, Rockhampton  
Photo: Supplied by Anne Augusteyn*





*The John Brush carbide lamp collection  
Photo: Steve Bourne*

About 12 months ago, I stayed with John Brush and Marjorie Coggan in their Canberra home, while I attended one of those conferences that seemed like a good idea at the time - Change Management. It was actually quite a reasonable few days and I really enjoyed the company of John and Marjorie. As you would expect, for those who know this great couple, they run a very tidy ship. I was shown John’s carbide lamp collection and took photos with him protesting. I think I have waited long enough so he has forgotten I have the images so have published one here. It is an amazing collection with each lamp meticulously polished. I know there are other people out there with similar collections. Does your collection match John’s? If so, please send me a photo and we can compare and honour the member with the best collection.

I have been communicating with Jenolan Caves management since the International Show Caves Association (ISCA) Congress in November 2014. Sandy McFeeters has resigned and Bob Conroy, the Trust Administrator has kindly provided my a copy of his summer report. Items that are of interest to ACKMA members include:

**Trust Strategic Plan 2015-18**

*The Trust Strategic Plan has now been finalised following consultation with Trust staff. We are focussing on implementing that Plan to reinvigorate Jenolan Caves in*

*order to both improve our visitor services and to improve our environmental performance. A number of priority projects were identified in that Plan and have now commenced. More information is outlined below.*

**Divestment Process**

*As many of you would aware, Government has committed to rejuvenating Jenolan Caves at least cost and risk to the taxpayers of NSW. Several attempts at finding an external provider for the provision of visitor services at Jenolan Caves (ie outsourcing) have not been successful. The Minister and the Government have yet to determine a position on future approaches to the market. 2M Hospitality (Michael Meade and Barbara Maunsell) were contracted by NPWS on behalf of the interagency Divestment Steering Committee to provide specialist advice to inform the recommendations which will be considered by the Steering Committee and put to Government later this year.*

**Jenolan Karst Conservation Reserve Draft Plan of Management**

*The Jenolan Karst Conservation Reserve Draft Plan of Management is expected to be finalised and referred to the Minister for adoption in the next few months. The Trust has provided some comprehensive comments on the draft plan and is already implementing some of the high priority actions in close collaboration with the National Parks and Wildlife Service.*

The divestment process is particularly interesting as it is clear many state conservation agencies managing caves and other revenue generating natural and cultural attractions are exploring the potential for private investment or operation of these attractions. South Australia released a Nature-based Tourism Strategy in 2014 with a strong focus on private investment, which has been further reinforced recently with another plan to open parks for private activities. Some ideas mooted include the establishment of mountain bike trails in some parks. Clearly, proposals will need to be carefully assessed to ensure values of parks are not compromised by newly permitted activities. We shouldn’t be afraid of privately operated cave systems though. I once was but one of Australasia’s most successful cave operations is Capricorn Caves, the site of the ACKMA AGM in May. See you there!

Coming Events	
2016: May 4-8	<b>ACKMA Annual General Meeting and Cave Guides Workshop, Rockhampton, Queensland</b>
2017: May	<b>ACKMA Annual General Meeting, Auckland (tentative)</b>
2017: 23-30 July	International Union of Speleology Congress, Penrith, NSW, Australia
2018: May	<b>ACKMA Biannual Conference, Wombeyan Caves, New South Wales (tentative)</b>

## PRESIDENTS REPORT

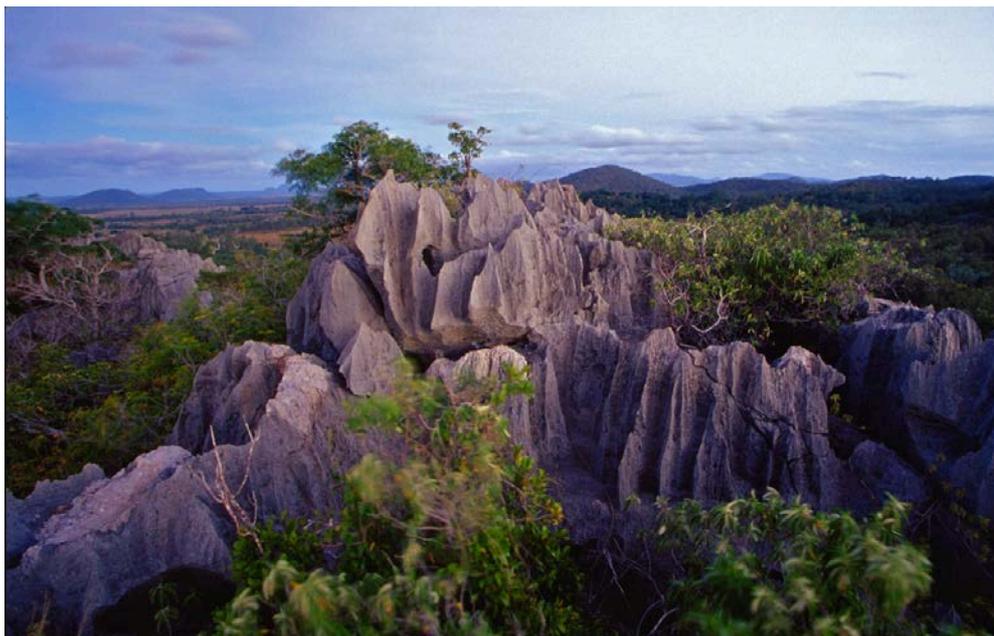
With less than two months to go as I write this report until the ACKMA AGM at Capricorn Caves, I hope that there are many finalised travel plans amongst readers and that we shall see a good turn out of members for the AGM weekend. It has been pleasing in recent years to see the AGM weekend increasingly resembling a 'mini-conference', and I am certain that 2016 will be no exception. Not that added incentive should be required to attend a gathering of the ACKMA family, however the splendid work that has been undertaken at Capricorn Caves recently deserves to be showcased, and will be a genuine treat for attendees. Ann and the team have been setting a very high bar in recent years for Australasian show cave sites to aspire to, and it will be a pleasure to have the opportunity to see all the recent developments over the AGM weekend.

In addition to the AGM weekend, the Guides School will be a real opportunity for professional development for those engaged in interpretation of show caves. I have always maintained that cave guiding is a professional undertaking that should be undertaken by professional staff. These staff should understand that they have the opportunity to shape and influence the future behaviour of their visitors. There is a significant inherent responsibility in this, and for those who are serious about their profession, the Guides School will offer new approaches to delivering meaningful take home messages, and look closely at the "toolbox" from which a guide may draw creativity and strategies for public engagement. I strongly encourage any cave guide who might be considering attending to leap at the opportunity the Guides School represents, and must

equally encourage site managers to consider providing support to staff to attend the workshop and the subsequent AGM weekend.

The upcoming AGM will also be the time to elect a new Executive team to continue to move ACKMA forward as an active and relevant association, and I would again encourage members to consider nominating for a Committee position, or approaching a fellow member to stand. New voices and new ideas on the Committee are vital, and with so many ACKMA members having differing backgrounds and areas of expertise it is important that there be a reflective and meritorious Committee. This AGM will be my last as President, and I can genuinely state that it has been an honour to serve in this capacity and to work with so great a group as has made up the Executive over the past three years.

I have no doubt that the year ahead will be every bit as challenging as the last. ACKMA continues to be an important voice for cave and karst management, providing professional input into such contemporary issues as the ongoing threat to Cliefden Caves, or in providing a submission to the draft Plan of Management for Paparoa National Park (with sincere appreciation to Mary Traves in particular for her energy on the latter activity). There remain serious issues, and serious challenges to effective and progressive cave and karst management across Australia and New Zealand. ACKMA remains the foremost organisation to engage and contribute to those issues relevant to its primary charter.



*Capricorn karst.*

*Photo: Supplied by Capricorn Caves*

## WELCOME TO CAPRICORN CAVES

We extend an invitation to everyone to join us for an exciting guide school focussing on the role of the cave guide delivering a memorable interpretive experience. This will be followed by the ACKMA annual general meeting. Located north of Rockhampton, just off Highway One, these caves are the only privately owned show caves on freehold land in Australia. They have been open to the public since their discovery by the Olsen family in 1881. Today they offer a variety of experiences from wheelchair accessible tours to wild caving, Geo discovery tours, renamed Bats and Bones for families, rope courses and abseiling. A strong educational program is complimented with accommodation facilities. In 2014 they were awarded gold in the Queensland tourism awards and the Australian bronze award for tourist attraction. The whole cave system has recently been relit with solar powered Weidmuller LED lights operated through a Cbus™ computerised system.

Of Devonian origin, the caves are different to underground highly decorated wet systems. The limestone has been uplifted over millions of years to form a ridge with an interesting surface karst. Scientific debate continues on the formation of the caves, but much knowledge has been added through the work of Dr Scott Hocknull and his team. A Queensland Museum palaeontology dig site is revealing exciting information about climate change and past flora and fauna. The most recent discovery by [Dr Gilbert Price](#) and an Australian research team has found a one-centimetre bone from under the lizard's skin and is the youngest record of a giant lizard on the entire continent. This bone found in Capricorn Caves is the first evidence that the time frames of Australia's first human inhabitants and giant apex predator lizards had overlapped.

### Highlights of the Guide School will be the keynote speakers:

#### John Pastorelli



Winner of Australia's highest honour for practicing interpreters, the Georgie Waterman award, John went on to start his own company Ochre learning. He is a well-known trainer, coach and author who designs rich interpretive experiences and customer engagement. He has worked on training programs ranging from Chinese speaking persons to aboriginal

communities in NSW. He was involved in Sydney Bridge Climb, Nature Connections New Zealand, Zoos Victoria and presented at Tasmania's Tourism Industry Council Conference in 2015.

#### David Morgans



Director Destination and Market design at Tourism Events Queensland. David joined Tourism Events Queensland in 1997 with a range of positions including product development, sustainable and environment tourism. Recently he has worked with Duane Knapp an expert in brand strategy in presenting experience development to tourism

forums. David graduated from Griffith University with a degree in environmental science.

#### Scott Hocknull Keynote speaker at ACKMA Annual General Meeting



Scott is a vertebrate palaeoecologist, passionate science communicator and 3-D digitisation and virtual technology advocate and practitioner in the museum community.

Among other honours, Scott was awarded the

Young Australian of the Year in 2002, which provided him a unique platform to develop and promote Australian vertebrate palaeontology research and community engagement, whilst leading a wide range of new areas of exploration, discovery and research. Realising that most of museum collections are hidden from public view, Scott has become a strong advocate for bringing the behind-the-scenes museum collections and science to the public. He is currently working on new 3-D digital and virtual ways to better capture our fossil heritage in digital perpetuity. He heads the team currently researching the palaeontology dig site at Capricorn Caves.

## QUEEN VICTORIA and the DEVIL'S ARSE and OTHER SHOW CAVE/MINE DELIGHTS in the ENGLISH PEAK DISTRICT

John Brush

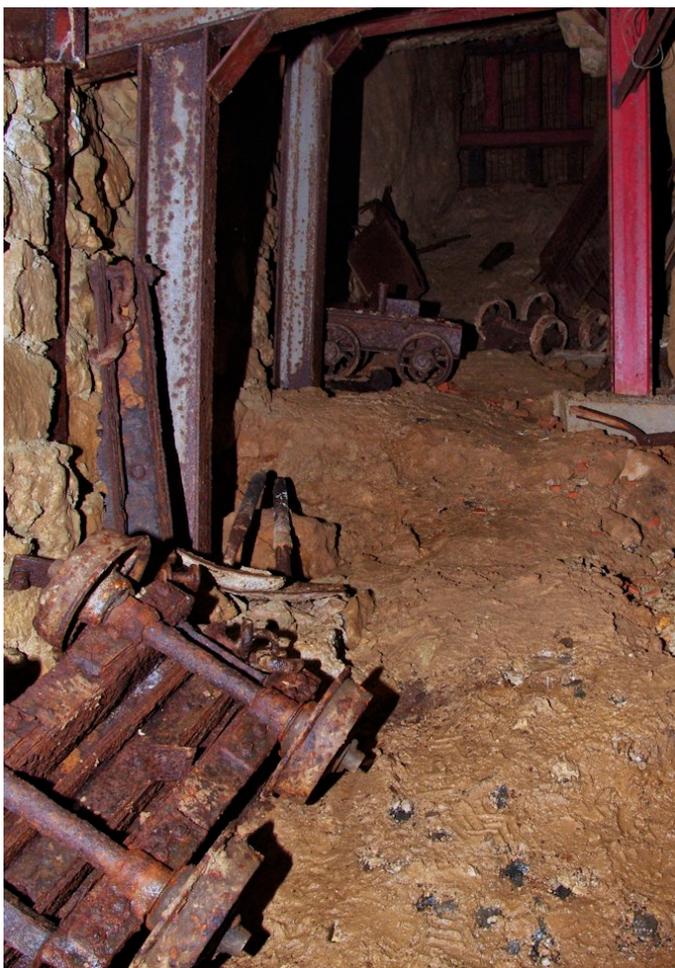
Canberra Speleological Society Inc

We were aiming for what is billed as the largest cave entrance in the Britain Isles, but after paying to park in a gravelled field (as is so often the case over there), the only sign we could see said "This way to The Devil's Arse". Not a promising start for a cave visit, we thought.

Marjorie and I were in the Peak District of Derbyshire, accompanied by our British friends Kirsty and Martin, and the previous day we had been to the Temple Mine, an old mine that had some small natural cavities, followed by a visit to Great Masson Cavern a cave that has been substantially altered by mining, and we were all planning to visit other cave-mines (or mine-caves) in the area where one would think there was ample scope for naming features after Satan, but why attach such a name to an impressive natural cave?

### The Temple Mine

Our first underground visit in the Peak District was to the Temple Mine in the village of Matlock Bath. As with many mines in the area, the Temple Mine was established to exploit lead and fluorite (Calcium Fluoride) mineralisation in the local limestones. The mine opened in the 1922 and operated for three years. It opened again for a while in the 1950s and at that time, remnants of 200 year old tunnels were intersected by the more recent workings, indicating a long history of mining in the area. Apparently none of the operations was very profitable. Today, the mine is owned by the nearby Peak District Lead Mining Museum, which offers regular tours into the mine. There are normally two tours a day and, as group size is limited, advance reservations are recommended. However, on our mid-

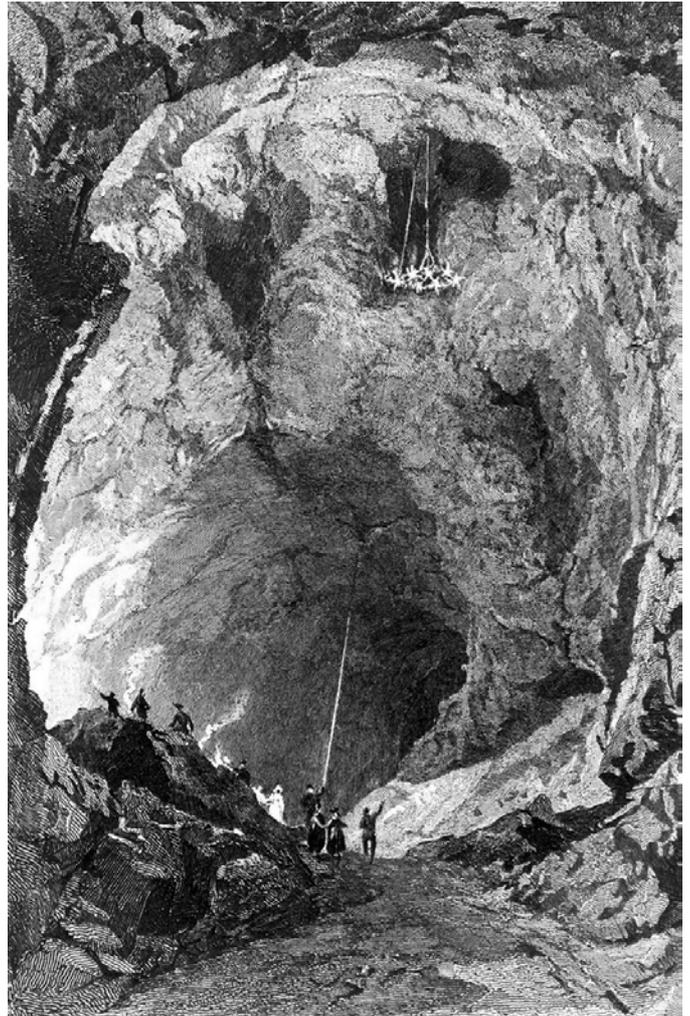


*Mining equipment in the Temple Mine. The mine was last worked in the 1950s.  
Photos: John Brush*

week tour, it was just the guide and the two of us, as well as a former mine geologist who was hoping to be appointed as a guide. The tour was very informative and there was a good range of old mining equipment along the tunnels. The museum is also very interesting for those with a mining or geological disposition.

### **The Heights of Abraham and the Great Masson Cavern**

A few hundred metres from the Temple Mine, Britain's first alpine-style cable car system whisks visitors out of the Matlock Bath area of the Derwent Valley to the Heights of Abraham, a dizzying 169 metres higher. This is a popular recreation area with gardens, walks, exhibitions, children's play areas, eateries and a choice of two 'caves' or a virtual cave tour. The area is billed as Derbyshire's oldest visitor attraction. It first opened to visitors in 1780 and became very popular in the Victorian era. In earlier times it was another lead and fluorite mining area and reached its zenith in the 17th Century. The two show caves, Great Rutland and Great



*Great Rutland Cavern, an engraving by T Clark based on a drawing by Thomas Allom and published in The Juvenile Scrapbook, 1847. (image courtesy of the Heights of Abraham Website).*



*Entrance to the Great Masson Cavern, a former lead mine in Matlock Bath. Photo: John Brush*

Masson are in reality old mines that have some highly-modified natural passages. As mining activity declined, miners were employed to build visitor attractions, such as walking paths, gardens and a stone tower and, in 1810, the Great Rutland Cavern opened to the public,

Entry to everything at the Heights of Abraham, including the caves, is included with the Gondola ticket. We joined a tour into the Great Masson Cavern, which was a mix of natural limestone galleries and excavated tunnels. With admirable concerns about visitor safety and animal welfare, dogs are not allowed on tour. The highlight of the trip is a large cavern near the end of the tour that has a miner's inscription dating from 1705, an elaborate and historic candelabra and a light show that bathes the drab walls of the highly-modified cavern in red, blue, purple, green and electric blue in quick succession. For those not able to negotiate the cavern's 171 steps, including 80 in one flight, there is a virtual tour of the cave in a nearby exhibition room. As time was running

short, we did not visit the Great Rutland Cavern further down the hill. That tour focuses on the mining history of the area and is where visitors can apparently experience a day in the life of a 17th Century lead miner, which could be a little grim.

### Blue John Cavern

“It has been suggested that the Blue John Cavern is the finest that can be seen by the general public in Western Europe” a bold claim from the Blue John Cavern Website.



*The entrance to Blue John Cavern, one of only two sites where the banded purple and cream variety of Fluorite, known as Blue John, is currently being mined.*

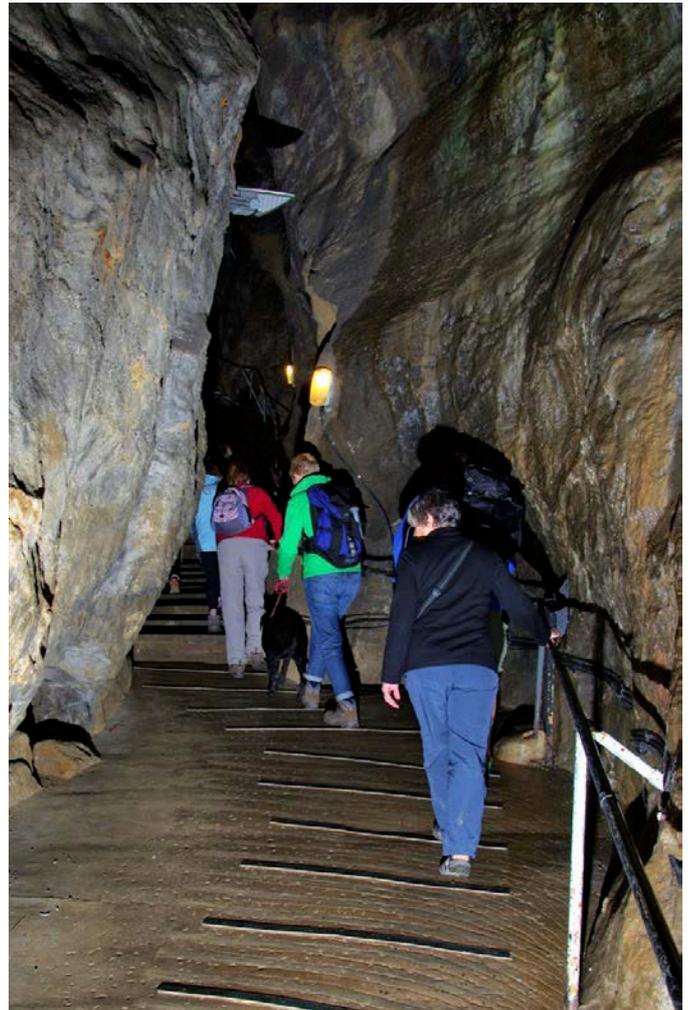
*Photo: John Brush*

Blue John Cavern is situated in rolling hill country above the village of Castleton. The cave is named after the semi-precious translucent banded purple and cream coloured fluorite (or fluorspar) that is unique to that part of the Peak District. It has been crafted into items such as jewellery, goblets and small dishes for at least 200 years. Local legend has it that Blue John has been mined since Roman Times, but it seems there is no proof of this. However, what can be said with certainty is that



*Verdant growth near a floodlight in Blue John Cavern.*

*Photo: John Brush*



*The tall fossil stream canyon in Blue John Cavern. As with many British Show Caves, dogs are allowed on tour.*

*Photo: John Brush*

this show cave is one of only two places in the world where Blue John is currently being mined. How the semi-precious stone came to be known as Blue John is not known, but one suggestion is that it is from the French “Bleu-Jaune”, meaning Blue-Yellow.

The natural entrance to the cave is a vertical shaft, but visitor access is now through a tunnel dug into the hillside behind a modest stone building that serves as the ticket office, café and souvenir shop. The first steps - there are 245 of them on the tour route - lead down the tunnel and into a tall, inclined fissure. With its meanders and scalloped walls, this fossil stream passage is stunning. In places the walls are coated with a thin layer of flowstone that we were allowed to touch: “bet you are not allowed to do that in Australia”. Quite. Beyond the reach of human hands, the flowstones are attractive and range from white through various shades of cream and, occasionally, grey. Every so often there are patches of a verdant green growth on the walls. The origin of these can only be guessed at, but they appeared to be associated with large upwards-facing floodlights that are used to illuminate tall sections of passage.

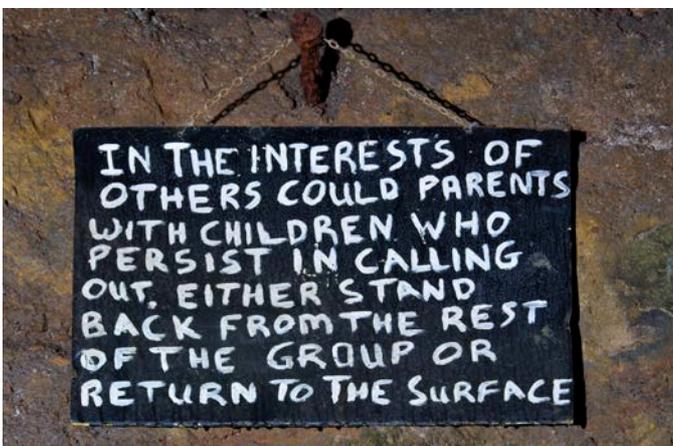


*A vein of Blue John that has been left unmined beside the Blue John Cavern tour path. Lampenflora suggests the lights are left on throughout the day.*

*Photo: John Brush*

The tour route descends steeply and care is needed on steep, wet sections of concrete path that were quite slippery. Having two extra points of contact with the path, dogs seemed to be having no troubles at all, but for some of the human members of our party, it was a different story.

Beyond the end of the tour route, the passage appears to be quite muddy, and further down, we were told, there is an active streamway leading to a sump.



*A sign in Blue John Cavern.*

*How many cave guides must think this at times?*

*Photo: John Brush*

A highlight of our tour was seeing a large vein of Blue John that has been left in-situ in the cave wall. In a wider section of passage closer to the entrance, there was a display area where chunks of Blue John had been cemented into a retaining wall and there were pieces of old mining equipment, including a winching apparatus that was used to haul men, equipment and extracted Blue John from the cave. Mining today takes place in side passages away from the show cave route and is done by tour guides in the quiet winter months. Mining, in a cave, in a National Park? "Bet you are not allowed to do that in Australia", the guide might have said.

### **Treak Cliff Cavern**

The history of Treak Cliff Cavern dates back to the 1750s when a tunnel was driven into the hillside in pursuit of lead ore. Natural cave passages and veins of Blue John were soon discovered, and for almost two centuries it operated sporadically as a combined lead and Blue John mine. Since 1935, when electric lighting was installed, it has been a show cave and it is also the only place, apart from Blue John Cavern on the hillside above, where Blue John is currently being mined. Treak Cliff's annual production of Blue John is around 500 kg, all of which is supplied to workshops in the Castleton area.

We did not have time to tour the cavern, but with attractive decoration and the trialling of an innovative new mining method – using chainsaws - it sounds like an interesting place to visit.

Also of interest in the area is a perfectly formed circular depression with a raised rim located 250 metres NNW of the cavern. Unlike the many dolines on the hillside above, this depression results not from karst processes but from a bomb dropped during the Second World War. It is not hard to find on Google Earth imagery if you select an image with a low sun angle (for example, April 2007).

### **Poole's Cavern**

Poole's Cavern, on the southern edge of Buxton, is unlike most of the other show caves in the Peak District, in that it is just a cave. It was never mined, apart from extensive archaeological excavations in the first chamber just a short distance into the cave. The excavations, which commenced in the 1890s, uncovered many Roman items and the chamber soon became known as The Roman Chamber. Almost a century later, the extensive diggings seen today have revealed more Roman artefacts as well as items from the Iron and Bronze Ages and the Neolithic Period, indicating a very long period of human visitation and use.



*The old ticket office at the entrance to Poole's Cavern, Buxton.*

*Photo: John Brush*

Beyond the Roman Chamber there is a substantial breakdown chamber with a chattering stream running along one side. Here the show cave trail, a concrete path built on top of breakdown, climbs and skirts around the top of a cascade of flowstone and gour pools, which is one of the iconic features of the cave. Another feature hangs above. This is the Flitch of Bacon, a 2-metre stalactite with a broken tip. As early as 1681, a visitor (Charles Cotton) questioned the appropriateness of the name of the stalactite, given that it is round and bears no resemblance to a side of bacon. Nevertheless, the name has stuck and its main claim to fame is that it is reputed to be the largest stalactite in Derbyshire and would have been even longer had not 19th Century vandals thrown rocks and broken off the tip. Or so the story goes.

The handrails in this part of the cave, once timber and iron, have recently been replaced with stainless steel tubing and wire cabling supported by steel posts. Further in, the handrails are all painted steel.



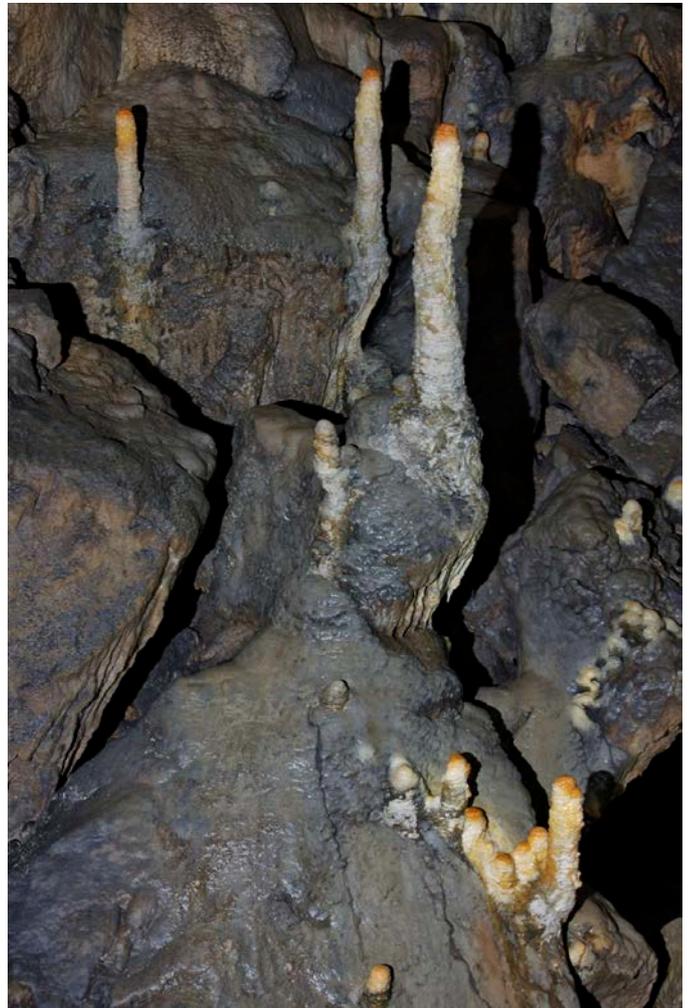
*Cascade of gour in Poole's Cavern.  
Photo: John Brush*



*New stainless steel handrails, with steel posts,  
in Poole's Cavern.  
Photo: John Brush*

Another recent improvement is LED lighting, but signs of earlier lighting systems are still visible. A gas light pole and rusty pipework (and also soot marks) have been left as reminders of a revolutionary gas lighting system that was installed in 1859 by Frank Redfern, the cave's first official custodian. The cave was to remain under the care of Redfern and his descendants until 1965 when it closed to the public. Surprisingly, the gas lighting was still in use at that time. In 1976, the cave reopened with electric lighting and a new owner; the Buxton Civic Association, a not-for profit organisation established in 1968 to preserve the fine architecture and natural and formal landscapes of the Buxton area.

As the tour continued, our guide paused at a group of blackened stubby stalagmites in the middle of the path. "These are touchers", he said, the only speleothems in the cave that visitors are allowed to touch, in marked contrast to some other British show caves where visitors are allowed to touch decoration within easy reach and are sometimes encouraged to do so. In contrast to the



*Yellow-tipped stalagmites in  
The Poached Egg Chamber, Poole's Cavern.  
Photo: John Brush*



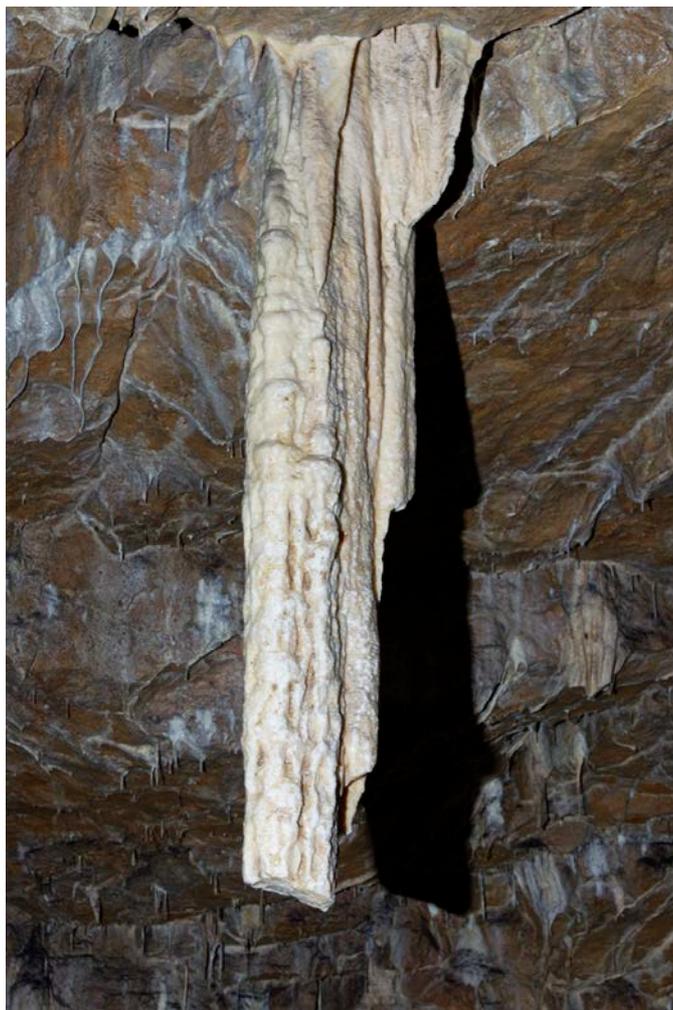
*The only stalagmites in Poole's Cavern that visitors are allowed to touch. Note the black tips resulting from the touch of thousands of greasy fingers.*

*Photo: John Brush*

black-tipped touchers, most of the stalagmites in this area, known as Poached Egg Chamber, had yellow tips. The yellow staining was long considered to be caused by iron oxides in drip water, but recent work suggests bacteria and organic compounds in decaying vegetation on the surface are also involved. We were told the stalagmites are also growing very quickly (and we were shown one that has grown on a handrail) and this is attributed to percolating rain waters picking up unusually large amounts of powdered waste from old quarrying and lime-burning activities on the surface above. Not sure about that one.

Near the end of the show cave path, a few signatures left by visitors in the 1930s and 1940s are disappearing beneath flowstone and nearby, the lower slopes of a breakdown pile have been coated with attractive flowstones and microgours. Further on, the passage continues to a breakdown choke. Convinced that the cave continued beyond the choke, the owners commissioned a ground penetrating radar survey in 1998 and, as the results looked promising, sunk a number of boreholes. The seventh borehole intersected a substantial chamber that has become known as Seventh Heaven. Nobody has been there, but video images taken with a camera lowered down the borehole show spectacular decorations. The video can be viewed on the Poole's Cavern Website.

Poole's Cavern is an attractive and interesting cave. The infrastructure is in generally good condition, the lighting is effective and our guide was knowledgeable and stressed the importance of careful management of the cave. He also expressed concern about a small patch of lampenflora, noting that it was not a natural feature of the cave and would be dealt with, contrasting with the attitude in some of the other caves in the area.



*The Filch of Bacon, a 2 metre long stalactite in Poole's Cavern, that is reputed to have had its tip snapped off by stone-throwing vandals in the 19th Century.*

*Photo: John Brush*

### **Speedwell Cavern**

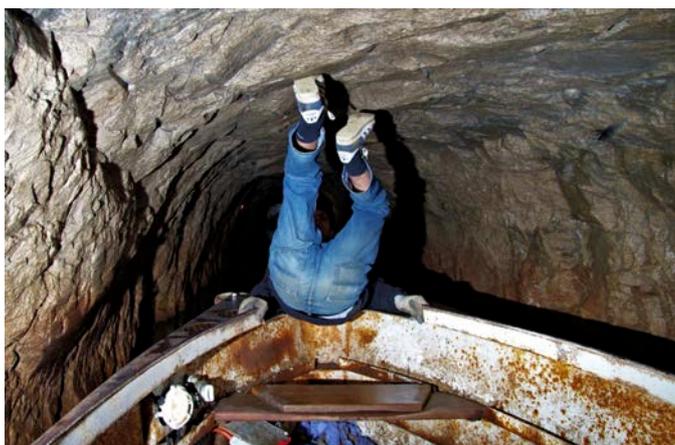
Speedwell Cavern is really a mine that has broken through into natural cave passages. The show 'cave' trip is essentially a long descent (125 steps) down an inclined tunnel, followed by a boat trip along a partly submerged horizontal tunnel. About 200 metres into the tunnel, visitors alight from the boat, walk a few metres into a lofty chamber, gaze upwards at a caving rope hanging down from the inky darkness, admire a sump pool at the bottom (the Bottomless Pit), peer into the continuation of the mine tunnel and then hop back into the boat for the return trip to the surface. That said, it is still an interesting trip.

Our boat was powered by a small electric outboard motor but rather than steer with that, our guide sat at the other end of the boat and used his hands to keep the boat centred in the narrow tunnel. During this time he



*A short side tunnel is used as a passing bay for boats in Speedwell Cavern.*

*Photo: John Brush*



*Top. Steering the boat along a partly flooded old mine tunnel in Speedwell Cavern.*

*Bottom. Testing the emergency manual propulsion system of a tour boat (legging a boat) in Speedwell Cavern.*

*Photos: John Brush*

gave a running commentary on the history and operation of the mine. It seems that the tunnel was dug in the 1770s as an exploratory drive. It intersected several lead veins, which were pointed out as we glided past, but they were not rich and the mine was never a financial success. It has been suggested that the tunnel was designed so that it could be used as an underground canal for transporting material out of the mine by boat. While this is open to conjecture, what is more convincing is an argument that the direction and elevation of the tunnel was very purposeful which strongly suggests that the miners had a good knowledge of cave passages further into the hillside and aimed the tunnel to connect with them.

The cave and mine passages form a complex system of sinks, springs, stream passages, vertical shafts and dry passages totalling 17 kilometres, making it the longest and deepest cave system in Derbyshire. The system includes the nearby Peak Cavern.



*The walk to The Devil's Arse (aka Peak Cavern) skirts around the edge of Castleton and follows the cave stream towards the entrance.*

*Photo: John Brush*

Before too long, we were inside the cave, which is reputed to have the largest entrance in Britain. It is some 30 metres wide and 20 metres high and the entrance chamber extends back about 100 metres. The earth floor has been terraced and this was the site of a rope-making 'cottage' industry for several hundred years. Much of the rope produced was supplied to the nearby lead mines through the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> centuries. The last of the traditional rope makers retired in 1974, but rope making still forms an important part of the show cave tour, as we were to discover.



*Laying out twine for the first step in making rope  
on historic equipment in Peak Cavern.  
Photo: John Brush*

As soon as we reached the rope making area, the guide set about laying out metres and metres of twine between a hook mounted on a wheeled trolley and a geared wheel with several hooks and a handle that was attached to a post. We were soon to learn this was called the “fixed jack”. Our guide asked for a volunteer and we all chose Marjorie who was then given a quick lesson on how to turn the handle of the fixed jack. It looked like hard work, but as we did not wish to interrupt the important work, the rest of us just watched in silence. Before long, Marjorie and the guide had whipped up a 10 metre length of rope. The pieces of rope so produced by volunteers are usually handed over as a souvenir, but the guide was so impressed with tight and even lay of our rope, that he decided to keep it - and no doubt put it in the gift shop - and instead gave us a rough piece he found lying nearby. Talk about exploitation of volunteer labour.

Not far beyond the entrance chamber we were shown a sump pool where, when conditions are right, air bubbles through the sump to equalise pressure on either side and in doing so emits loud farting noises. Hence the Devil’s Arse. The cave was apparently known as this for several hundred years, but the locals renamed it Peak

Cavern prior to a visit by Queen Victoria to avoid causing possible offence. In recent times, the cave operators have reverted to the original name in much of their promotional materials.

A little further into the cave, early visitors were confronted with a low section of cave with a large pool of water. To proceed, they had the choice of either bending over and getting wet, or lying prone in a boat. Once again, Queen Victoria’s left her mark here. Locals reasoned that neither of the options was likely to appeal to the Queen, and so in advance of her visit, they blasted away at the roof. Since that time, visitors have not had to stoop and at the time of our visit, there was no sign of any lake.

After being regaled with stories like that, the end of the tour was somewhat of an anticlimax. There is a large but dismal chamber tinged with of green and, at the inner end there is a low, muddy passage that leads to the rest of the 17 kilometre system. To paraphrase Queen Victoria, we were not amused.

## CAVING in MADAGASCAR

Steve Bourne

Madagascar - a country of bountiful forest, lemurs and a diversity of other fauna not found elsewhere on the planet. Well so I thought. Of course I had read that the country's forests were under pressure and many species of lemur are threatened or endangered, but the same can be said for much of Australia. I was not quite prepared for the level of clearance and just how little natural vegetation remains, at least in the parts of the country I visited in September this 2015.

I was lucky enough to get on an expedition to recover bones of extinct lemurs located in a cave in the Beanka area on the western side of Madagascar. ACKMA member Greg Middleton has been a regular visitor to this area, along with my friend Julian Hume from the Natural History Museum in London. I had previously been on a trip to Mauritius and Rodrigues with them and Owen Griffiths, who resides in Mauritius and has

conservation and business interests on each on these islands.

The expedition was coordinated by Owen, with scientific coordination by David Burney from Hawaii. Other team members were Eric De Boer, a Dutch palynologist, and Christine Griffiths, no relation to Owen but manager of his tortoise reserves, and a team of locals including palaeontologists from a university in Antananarivo, (called Tana by most people) the country's capital.

The journey there was a long one, over 36 hours of plane flights and quality time in various airports. I flew to Johannesburg, waited six hours and then flew four hours back in the direction I had just come from to get to Tana. We stayed overnight in Tana and loaded the four vehicles in the morning with supplies, which had been purchased by Greg and Owen the previous day. The Malagasy currency is the ariary; its 'value' fluctuates between about 2,500 - 3,000 to \$1A, so the supplies came to an impressive 2M ariary. I was briefly a millionaire, although with all that money in your pocket you became a target for the local pickpockets, one who was brazen enough to try and get Julian's money out of his pocket even though he had his hand in pocket around his roll of money!



*Antananarivo is a crowded city with areas of poverty. It is certainly not a tourist magnet.*

*Photo: Steve Bourne*



*A pickpocket about to try his luck  
Photo: Steve Bourne*

The first day was a gentle 4 hour drive to Tsiromandidy, the last reasonable sized town before our final destination. The last night of 'cold' beer before we hit the field. The hotel was not a high standard western hotel, but the friendly staff and good local food made for a pleasant evening.

Early next morning we heard what was to become a catch cry for camp, "its a brand new day" as Owen rallied the troops. Being quite a early riser, assisted by 4.00am church bells and roosters, I was well and truly awake before Owen did his circuit. After breakfast and purchasing 100 bread rolls, we hit the road for Ambinda, the field site at Beanka. At the time, I did not realise these bread rolls were to become a staple of our diet for a week.

I had been told that the roads of Madagascar are the worst in the world and dismissed this as a superlative without much foundation. Well I was wrong and I have to agree, these *are* the worst roads I have ever seen and



*The 'highway' between Tana and the coast.  
Photo: Steve Bourne*

travelled on. Ambinda is 320km from Tsiromandidy, and we took just over 12 hours to travel this distance. we took less on the way back, but more on that later.

For me as a first time traveller of the route, it was all new and exciting, but for the veterans like Greg and Julian,

the journey was rather tedious. Along the way, we passed through a large national park. Apparently a few years ago, it was a reasonable expanse of forest, but incessant burning and clearing has reduced it to non-contiguous patches of vegetation. For me, it demonstrated the great challenge the world faces, trying to protect natural resources when the human need is great, and this need inevitably wins out, especially when they is little or no controlling conservation agency.

Happily, Beanka is quite a different story. Owen Griffiths, through his organisation Biodiversity Conservation Madagascar (BCM), has secured a 25 year lease of the area. This has added a degree of protection, with the guards Owen employs, in addition to the natural protection provided by the area's geography and geology.

At last, day five after leaving Australia, I got to do something other than sitting in a plane or car - some caving! A local guide took Greg and me, plus our local university palaeontologists, to a cave not too far from the Ambinda field camp. We only visited the dry sections of the cave, but did return a few days later to explore the wet section.

I managed to see my first sifaka lemurs and got some nice photos. Now I knew I really was in Madagascar!! The days of travel were looking really worthwhile now.

Day six. Now for the serious business. The mission was now clear to me. I was a little vague when I joined the trip, but Dave Burney, Julian and Greg with Owen now clearly explained the expedition's objectives. We were to set up a field camp near a cave where extinct lemur bones had been found two years previous. It was a short three hour drive across rugged terrain including creek crossings. I learnt that on a previous trip the crossings were impassable to 4WD vehicles and cattle drawn wagons were hired. I also learnt when we returned to Ambinda that the camp site was a mere 17 km away, it



*The Beanka karst  
Photo: Steve Bourne*



*Home sweet home - our camp site  
Photo: Steve Bourne*



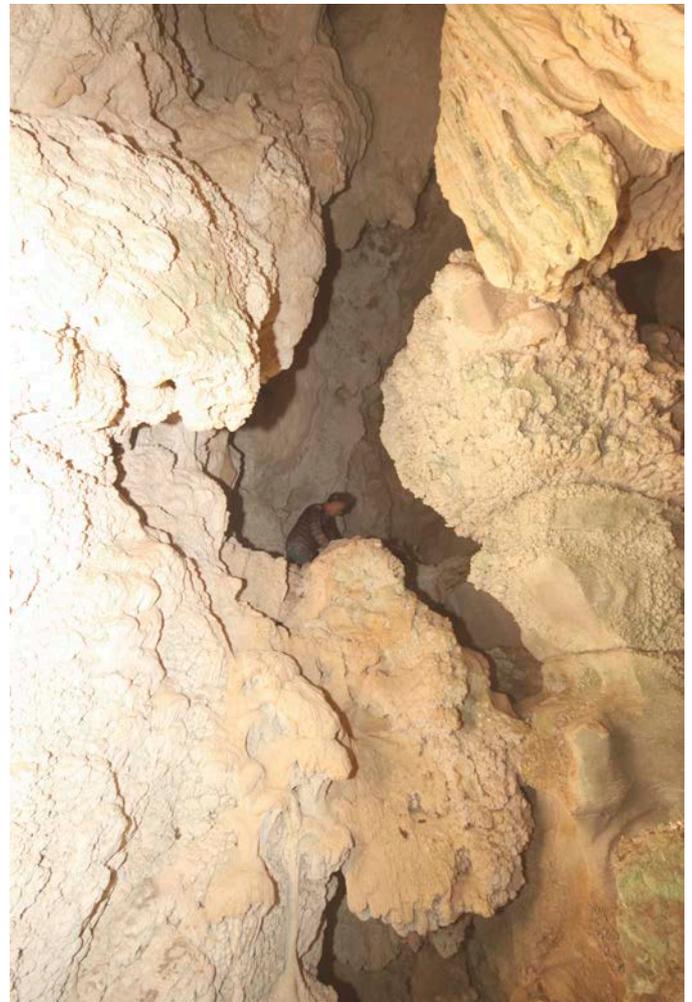
*Collecting the fresh meat on the way to our camp site.  
Photo: Erik De Boer*

would have nearly been possible to walk there in the same time as driving.

We set up camp in a rather exposed area, but given we were not in camp during the heat of the day this did not matter. On the way to our camp site, our drivers had purchased some chickens and ducks. These were transported live to camp, and provided fresh food over the next few days. Not quite how it would be done at home, but with no refrigeration, a perfectly reasonable way to ensure you has fresh meat.

When I left Australia, I made a conscious decision to not have any form of communication or time keeping device with me. As someone who spends his life attached to various forms of media, I thought a break would be very good for my wellbeing. This was true, but the total lack of any idea of what time of day or night can create some interesting situations. The first night in the field camp I awoke refreshed after an very early night (8.30pm or so after the generator was shut down). I noted a light on in Owen's tent and assuming the the catch cry "its a brand

new day" would soon ring out, I dressed and left the tent. It was dark, and given the early start, decided to find my way to the river and try to photograph lemurs and other nocturnal wildlife. After a considerable length of time at the river (maybe 1 km from camp) and still being dark, I guessed I may have misjudged the hour of the day/night, so I returned to my tent. Much later, the "brand new day" cry rang out across the camp at 5.30 am. I asked



*Owen Griffiths in one of the new caves  
Photo: Steve Bourne*

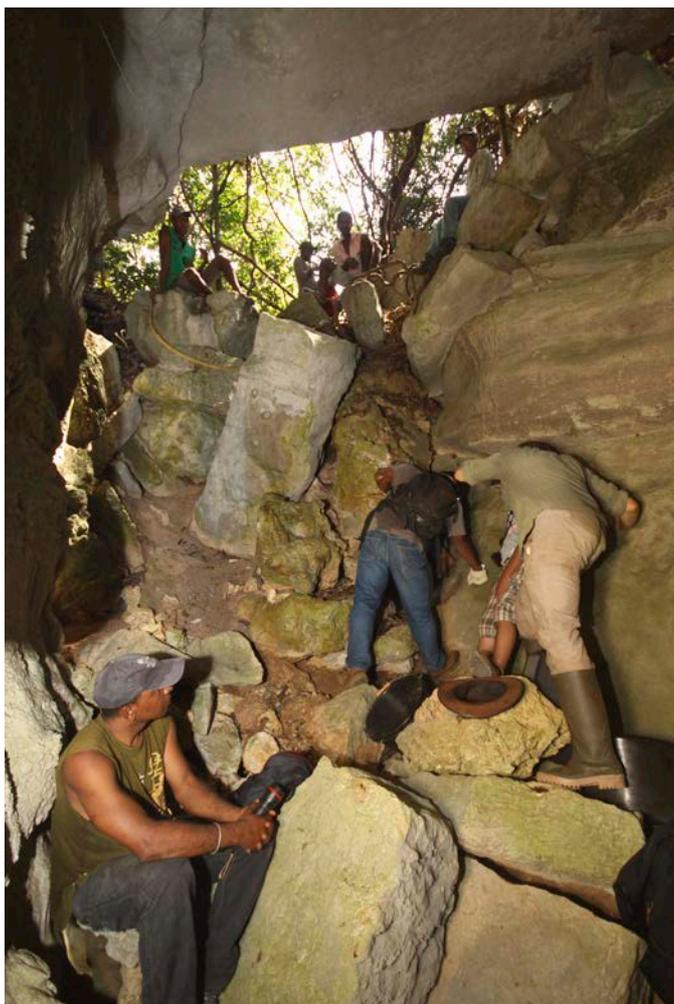


*Walking across the Beanka karst to the cave site  
Photo: Steve Bourne*

Owen when he had his light on during the night. Apparently he had woken for a drink at 2.00 am and I had seen his light, and thinking it was morning had set off. This was not the only time I spent some hours exploring the Malagasy jungle at night; sometimes a clock is useful!

Once the rest of the team was ready, four hours after I was, we set off for our target, a cave with lemur bones. Just a short one and a half hour walk. When I added up the travel from home, I was a long, long way away, both in distance and time.

The cave site with the bones is a steeply sloping cave entrance. Dave Burney had provided a preliminary

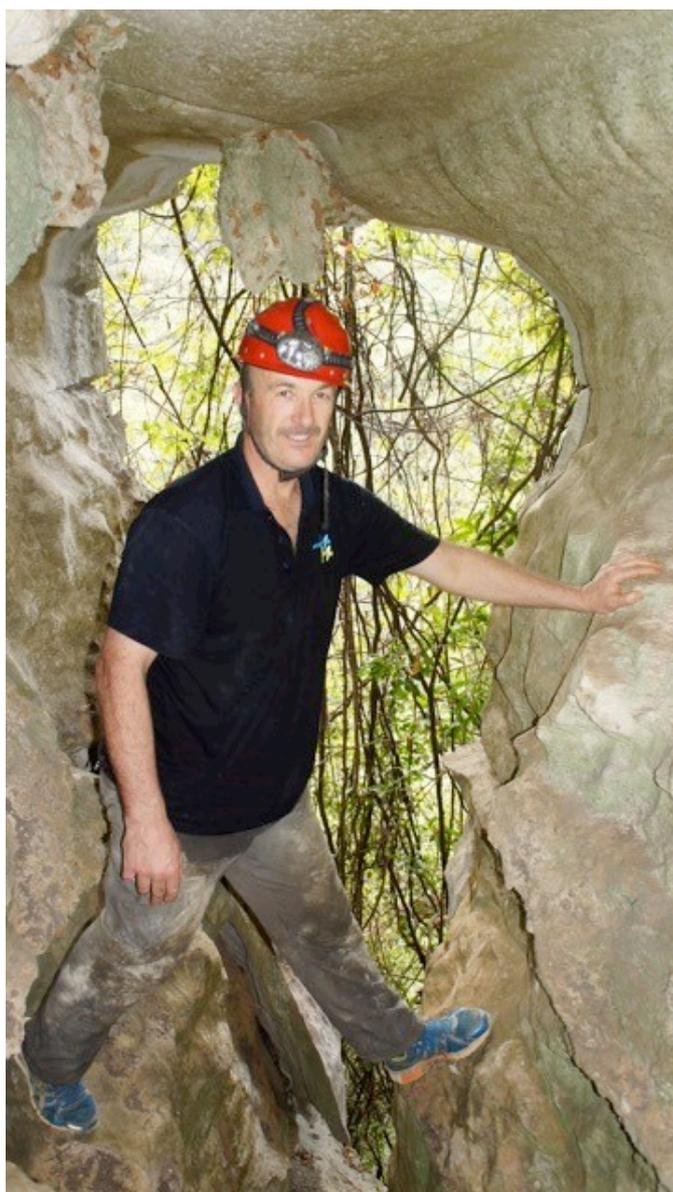


*The steeply sloping entrance to the bone cave. Bones were trapped in small pockets of sediment close to the entrance.*

*Photo: Steve Bourne*

interpretation of why the bones were there - a possible giant eagle roost, where these bones were discarded from above and were dropped/washed into the cave. The excavation team of locals set to work and the rest of the team set off on other tasks. Owen and I explored to the right of the cave entrance and quickly climbed to a new level, and discovered two new caves straight away. This was too easy. Neither cave was very long, maybe 100 metres of passage each, but of good dimensions, some nice climbs and leads, so plenty to keep a caver interested. The upper entrance of one supported Dave's interpretation of an eagle-accumulated deposit being directly above the dig site. No doubt further analysis of the bone material will confirm or refute this interpretation.

Excavated material was sieved and sorted on site, with Julian and Christine coordinating this work. The logistics (and hard work) of carrying all of the sediment one and half hours back to camp meant that it was much easier to carry tables, sieves and other equipment to the cave site. My role became the "official" expedition photographer, which was a pretty good gig. It gave me



*The author in one of the new caves we found.*

*Photo: Greg Middleton*

the excuse to move from one site to the next, do a bit of cave exploration, photograph birds and other wildlife, and generally have a really good time. I finished with a little over 2,500 images for the trip.

One the second day of excavation, Greg, local guide Delague and I visited the Bokorana River Cave. I understand that this cave was discovered via Google Earth, as it is possible to see the Bokorana River disappear into one side of the Beanka karst and emerge at another point. We entered the cave where the river exits (Greg tells me the entrance side is inaccessible). The first section is quite deep water, requiring swimming until a sand bank is reached. It was on this sand bank we noted crocodile tracks, and had a brief discussion as to whether we should keep going into the cave. I am not quite sure what the logic was, but we decided to keep heading into the cave. The serpentine cave passage is



*Christine and Owen and two local guides at the entrance to the Bokorana River Cave*  
Photo: Steve Bourne



*The deep slot I managed to negotiate*  
Photo: Steve Bourne

astounding. I had never been in a cave with a passage that meandered like this. At one point we heard a loud roaring noise which had us puzzled until we rounded the next corner to find tens of thousands of bats milling around. Moving further into the cave, Greg noticed a red eye ahead in his headlight. This was the crocodile that has made the tracks and was now about one kilometre into the cave! We crept closer and took a few photos and



*The crocodile in the Bokorana River Cave*  
Photo: Greg Middleton

decided that it would be unwise to push passed the two metre crocodile and having to pass it again on the way back. I felt slightly exposed, wearing my very best caving underpants (red) and nothing else!

A small collection of lemur bones was found above the main site. This small cave dropped down a deep slot a few metres inside the entrance, and it appeared that bones were being washed down here and there could possibly be a deposit at the base. I volunteered for the climb and looking down, thought it may have been about 10 metres. The narrow slot became much wider at about this depth requiring me to reverse and place my back against the other wall, and further few metres further down, I had to do the same again. The slot was over 20 metres deep and quite an exciting climb, but



*Partial skull of Archaeolemur*  
Photo: Erik De Boer

unfortunately no bones at the bottom. The sediment here was not conducive to bone presentation, and anything that had made it this far down had corroded away. After resting for 10 minutes or so, I made the long haul back to the top. We were thinking of names for the cave, and I proposed Cheese Grater Cave, because that is what it did to my back on the climb. This just added to the collection of scratches and bruises I was managing to accumulate.

It only took two days to complete the excavations, so the next day we took a walk following the river to a nice gorge with a couple of caves to explore, plus lots of wildlife to photograph. We found tracks of the elusive fossa, an animal I would love to have seen in the wild but had to wait to we visited the zoo in Tana a few days later. We saw more tracks of crocodile including tracks that were twice the size of the ones in the cave the previous day. It makes you skirt the deep water rather than wade through it! Greg led us through a couple of caves he had surveyed on previous trips and we explored the gorge for



*David Burney excavating bones  
Photo: Steve Bourne*

archaeological sites. The caves are warm and humid, so I sweated profusely, even with minimal exertion. Caving at the lower levels in the water had its advantages provided you could ignore the crocodiles. I saw another small one, which is apparently pretty unusual because Julian and Greg have been visiting Beanka for a few years and sightings are very rare. As we made our way back to camp, it started to rain, but fortunately did not last too long. The following morning, everything was mostly dry as we packed to head back to the field camp at Ambinda.

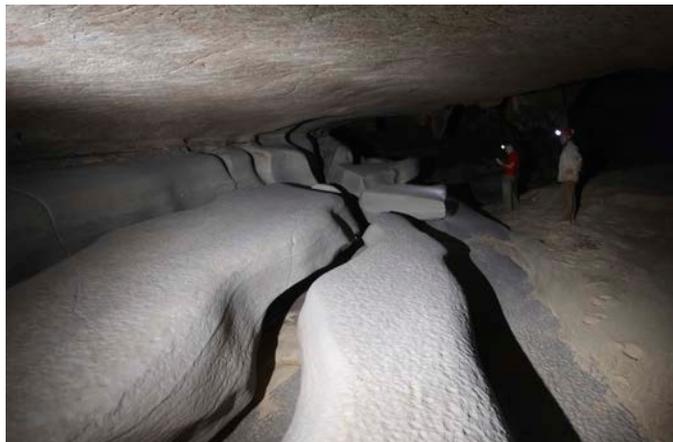


*Delague with a huge eel  
Photo: Steve Bourne*

The local villagers treated us to some spectacular dancing - back flips from a standing start a specialty for even the youngest of boys. I took many photos of the dancing and showed the photos on the screen to them.



*Above. My new friends at Ambinda  
Photo: Julian Hume  
Left. Acrobatic dancing  
Photo: Steve Bourne*



*Top left. A large millipede, reminiscent of those at Mulu, Sarawak. Top right. Beautifully water-sculpted limestone. Bottom left. Greg in a cave entrance. Bottom right. Greg, Julian, Eric and Christine in a high level passage. Photos: Steve Bourne*

This seemed to be something they had not seen before and pretty quickly I was taking photos of everyone from the village. Through an interpreter, I explained that would print them and send them back - how I would love to be there when they see the hard copies.

Greg and Owen led a trip to a bat cave found on a previous trip. We had to climb down a very steep gorge to reach it. The cave has some archaeological sites at the entrance, evidence of fires and hearths, and I wondered if the locals were catching bats and eating them in the past. I enjoyed a swim in the gorge river before we made our way back to camp.

Owen, Dave, and the local professors headed back to Tana a day earlier than the rest of us, allowing us to explore more caves and forest. Julian, Christine and Eric went with Andrew, a student undertaking his PhD studies on the Sifaka Lemur, in the hope of finding them as Eric was yet to see one. Greg and I went back to the cave we visited the first day, this time to swim the water that had put us off the first day. fearless of crocodiles by now! We found a new cave-dweller this time, eels. One

was enormous, well over one metre in length. I was interested that the locals do not eat them, as other cultures rate them highly as a food source. I never learnt why this is so. The cave also has at least three species of micro bats, plus one species of flying fox. One the way back to camp, Delague, our superstar local guide, found another troop of Sifaka Lemurs. Although I already had a couple of hundred shots, I took some more.

Christine and I then visited a cave that was used as a burial site in the past, with two large wooden coffins still in place (minus the previous occupants). We met the others returning with Andrew, somewhat disappointed they had only seen one lemur in the distance. I did enjoy showing them my photos of our close encounter. Interestingly, there was no sensitivity around visiting the grave sites and the local guides did not mind photos of the site and any issues around accessing the cave.

All good things must come to an end and it was time to pack and head back to Tana. A storm on the last



*Above, Greg Middleton in a large cave. The floor is covered with bat guano.*

*Below. A coffin in the grave cave  
Photos: Steve Bourne*



afternoon threatened to extend our stay, and certainly made it challenging keeping gear dry in the tent. After farewells, we set off on the 320km to Tsiromandidy. It was to prove an exciting drive.

On the way, we stopped at a small village and enjoyed a warm Three Horses Beer (known locally as THB). No refrigeration and mid 30°C temperatures with a beer straight off the shelf - but when there is no option, the beer still seems pretty good.

While here, the locals asked through Rado, one of our guides who is fluent in Malagasy and English, if we would take two villagers to where someone had died alongside the road on our way to the next village. We couldn't see any issue with this and put one in each vehicle. When we got to the site, I stepped out of the vehicle to get back into the front seat, and was approached by a man trying to give me money. I refused as I thought he was trying to pay us for bringing the villager to assist them. I could see a man cradling another who was not dead but clearly in a very bad way. The driver urged me to get in the car, and although I couldn't understand him, sensed that something was amiss. We could see large numbers of people walking towards the site, many of them with spears. When we caught up with the other vehicle, we learnt that the Dahalo (local bandits) had shot two villagers and stolen their cattle. They were gathering a group to try and get them back. Apparently, the man trying to give me money was trying to get us to take the dead and dying men to the next village. I learnt that a similar clash earlier in the



*Trying to keep the tent dry when a storm hit  
on the last night in Ambinda  
Photo: Julian Hume*

year had resulted in 5 dead villagers and all 12 Dahalo being killed.

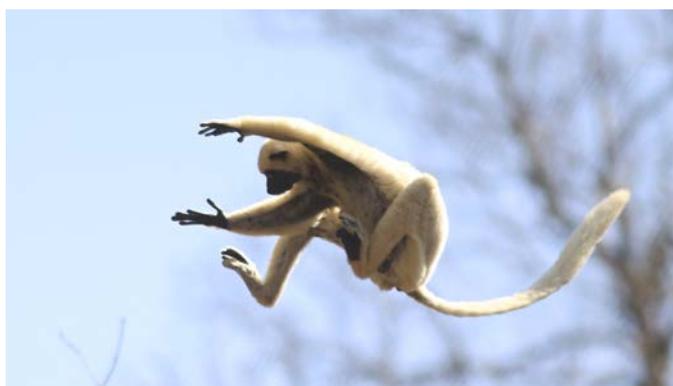
We had allowed an extra day just in case we had difficulties getting out of Beanka or the excavations took longer than anticipated, which meant we had two nights and one day in Tana. We visited the university to meet the two professors who had travelled to Beanka with us, and view their new laboratory. I found it interesting with their recent excavations - Madagascar has quite a fossil records extending back to dinosaur eras.

We visited the zoo, a rather sad, sorry affair where animals are kept in less than ideal conditions. If you wish to have a good look at lemurs, or an aye aye, you need to bribe the keepers. The animals are so used to humans they climb all over you to reach the honey the keepers place on you. I refused to pay the bribe to see the aye aye, as much as I wanted to see one. It didn't seem right to wake up a nocturnal animal just to satisfy my wishes. The last morning dragged on as we waited to go to the airport and leave Madagascar. We tried walking around the streets, but the pick pockets and beggars became too much.

Madagascar was not quite what I thought. The amount of country that has been cleared, at least where we went, gives little hope for the wildlife. Add to this a (over) population of people that is predicted to double every 25 years, and the magnitude of the issue becomes apparent. I did not find the capital city Tana a very pleasant place, but once away from the main population centres, people are friendly. The really remote areas of Beanka are fabulous and one wonders what the country would have been like prior to human occupation. The small pockets that are being preserved by Biodiversity Conservation Madagascar and others will hopefully retain some of this



*Above and below. How cute is this? Sifaka Lemurs  
Photos: Steve Bourne*



country's remarkable natural heritage. But get there soon and have a look just in case!

Julian and I boarded the plane for Johannesburg and to meet up with ACKMA member Hein Gerstner and wife Andia for the second part of this adventure. But that is another story...

## NEW ACKMA RULES

### John Brush and Dave Smith

#### **Editor's note:**

*The new ACKMA rules were published in Journal No. 101. John Brush and Dave Smith worked hard to update the rules as they were presented to the May 2015 AGM and subsequently presented to the Victorian Registrar. The following piece was provided at the time and through a combination of errors failed to publish this introduction. Whilst this and the rules now appear in different journals, I felt it worth printing as it provides background to support the new rules.*

ACKMA's new Rules have come into effect, following a resolution at the Naracoorte AGM in May 2015 and submission of required information to the Victorian Registrar.

ACKMA needed to substantially amend its Rules as a result of new legislation (the Associations Incorporation Reform Act) that came into effect in Victoria in 2012. ACKMA has always been constituted under Victorian state legislation and a brief review of all the options suggested Victoria was still one of the easier places to rest the organisation

At the Yarrangobilly AGM, the ACKMA Committee tasked Dave Smith and John Brush (who could be loosely described as "the rules sub-committee") with drafting a revised set of rules that could be presented to this year's AGM at Naracoorte.

Under the new legislation incorporated organisations must ensure that their rules address 23 mandatory matters specified in the legislation. There are also model rules available but they do not suit ACKMA's particular circumstances.

Initially, the sub-committee set about the task by incorporating the essential elements of both the original ACKMA Rules and new rules that were endorsed at the Buchan AGM in 2007 into the model rules. However, the result was long and complex and the sub-committee subsequently prepared a simplified set of rules based on the example rules developed by justiceconnect.org.au (previously known as the Public Interest Law Clearing Houses - PILCH). The justiceconnect rules are very short and simple compared to the official model rules and have apparently been used by more than 600 organisations incorporated under the Victoria legislation.

The key issues addressed in the new ACKMA rules are:

- A new set of objectives to more accurately represent what ACKMA does;
- Introducing a new membership category that allows corporate bodies to join ACKMA but the privileges of membership (eg the right to vote at AGMs and receive journals) will apply to one person nominated by the member organisation;
- Outlining a process for creating Honorary Life Members;
- Family membership, which has never been a formal membership category, has not been included, as this was addressed by the changes to membership and Journal fees last year;
- Amending the membership year to coincide with the financial year; fees will in future fall due on 1 April each year (and next year, the committee will implement transitional arrangements to bring this into effect);
- The new Act combines the roles of Public Officer and Secretary (which ACKMA has unofficially called the Executive Officer for some years) under the position of Secretary and requires that the person holding the position resides in Australia;
- The new ACKMA rules keep the roles separate and require the Secretary (previously called Public Officer) to perform duties specifically required by the Act; and
- Formalising the position of Executive Officer to carry out the usual secretarial responsibilities (and there is no requirement for this person to reside in Australia);
- The Secretary (ie formerly public officer) will continue to be appointed rather than elected;
- Downsizing the committee by removing the positions of the Immediate Past President and the Convener of the next ACKMA Conference, recognising that if there is a need for these people to be involved in committee discussions, they could be invited to speak, or be co-opted;
- Allowing for up to two co-opted Committee members;
- Adding provision for committee decisions outside the annual committee meetings by including a provision for resolutions in writing, including email. These must be agreed to by an absolute majority of the Committee Members.
- Adding provision for the committee to offer a new member who joins in the final three months of the financial year, membership for the following year.
- Including provision for an AGM to take place within 48 hours of the notified time without a formal adjournment. As there is a legislated requirement to notify the time and place of a meeting well in advance, this provision allows ACKMA a degree flexibility in circumstances where everybody is very late back from a conference trip, or a bus breaks down, so that we can still hold an AGM during the conference week.

## CANGO CAVES, SOUTH AFRICA

Steve Bourne



*Julian Hume (left) and Hein Gerstner on the range above Cango Caves.  
The scenery around Oudtshoorn, indeed most of South Africa that I visited, is simply stunning.  
Photo: Steve Bourne*

When I started planning for a trip to Madagascar to participate in the retrieval of extinct lemur bones, I looked at what else could be added onto a trip to this side of the globe. South Africa was the perfect option for several reasons; I needed to fly in and out of there to get to Madagascar (Mauritius route option was way more expensive), there are lots of great cave and fossil sites in South Africa, plus wildlife, and as I was to discover, two of the greatest hosts live there. I contacted Cango Caves' Manager (at the time) Hein Gerstner, and he and wife Andia developed a terrific itinerary for me. Near departure date, I asked my friend Julian Hume, who was to be on the Madagascar trip, if he would like to join me in South Africa, which he did.

The day we were to depart the Madagascar capital Antananarivo, Julian had a text message from partner Lorna. Julian had advised he was back from the field, to which Lorna said she looked forward to him getting home. Julian then let on that he was coming to South Africa with me - he hadn't told her! The homecoming from that one would have been interesting!



*Cango Caves visitor centre.  
Photo: Steve Bourne*



*Steve Mouton, Julian Hume and Jarrod Moos  
in Cango Two  
Photo: Steve Bourne*



*Recreated scene of how the cave may have  
been used by early people. This has been done  
very well and is quite lifelike.  
Photo: Steve Bourne*

In between booking the trip and arriving in South Africa, Hein resigned from Cango Caves. The issues around his departure are well documented if you search the web, so I won't elaborate here.



*Cave art in the entrance of Cango Caves.  
Photo: Steve Bourne*

After Julian and I visited the Cradle of Humankind World Heritage Site out from Johannesburg, we flew to Bloemfontein to meet with Hein and Andia. We visited Florisbad Fossil Site, travelled through the Karoo, more fossil sites and to their home town of Oudtshoorn. I had heard quite a lot about Cango, from ACKMA members Andy Spate and Kent Henderson, who have both been there. Hein arranged for Julian and me to visit Cango One (the show cave and adventure tour) and Cango Two (limited access).

Our guide was Senior Guide Steve Mouton with Jarrod Moos making up the party of four with Julian and me. We inspected the show cave section and asked to go through the adventure section to compare to other

adventure caving tours but mostly to see where a large lady became stuck in the Tunnel of Love in 2007. Hein had recounted the rescue story to us and I just had the see the location. The promotional material for the adventure tour reads;

*An iron ladder ascends from King Solomon's Mines into the unique caving adventure of The Devil's Chimney section. First you have to crawl through THE TUNNEL OF LOVE, a low passageway some 74 centimetres high, narrowing at one point to about 30 centimetres, where stouter cavers are apt to receive a loving squeeze!*

*This tunnel brings you to THE ICE CHAMBER, with its fascinating shelfstone ledge high around the outer wall. This ledge indicates the level of a cave pool from a bygone age. The pool's level ultimately subsided, leaving only a shallow pool in the cavern today.*

*Next comes THE COFFIN, a hexagonally-shaped hole in the shelfstone, which is the beginning and end of the final circular route. The cave opens out again as we pass through the ICE-CREAM PARLOUR into the colourful beauty of the DEVIL'S WORKSHOP. The brilliantly-coloured ceiling is decorated with many delicate helictites.*

*The way ahead leads over a steep hump, which leads you into the DEVIL'S KITCHEN, with its notorious DEVIL'S CHIMNEY. The guide points to a narrow crack in the wall - surely someone's idea of a joke! But no, this is the DEVIL'S CHIMNEY. Peering in you see a steep shaft about 45 centimetres wide which leads upwards for some 3.5 metres. There is a light at the top. Amidst an assortment of grunts, groans and, usually, hysterical laughter you squirm through the chimney into another larger chamber, only to be confronted by an even smaller opening.*



*"Candlestick" stalagmite in Congo Two.  
Photo: Steve Bourne*

*Using 'Leopard Crawl' to wriggle forward you approach a low, wide slot - the only exit route. It is only 27 centimetres high.*

*Some guides recommend a head-first 'posting', which may be likened to a rebirth experience, as one emerges infant-like from the narrow crevice. The alternative of feet-first results in an easy slide (depending on girth or chest-size) down the smooth, sloping wall and being deposited on the flowstone floor below. You have now reached the furthest point of the tour.*

*A short scramble leads you back to the Coffin, through the Ice Chamber and Tunnel of Love and back down the iron ladder into King Solomon's Mines and back along the previous route, emerging into the welcome light of day at the cave entrance.*

With a description like that, I just had to take the challenge! A group was exiting as we went in and I was surprised to see that visitors were in their street clothes and without helmets or protective overalls. The tour is lit with low level electric lighting and is a very well worn



*Jarrood Moos admiring helictites in Congo Two.  
Photo: Steve Bourne*

path. The rocks and flowstone are worn smooth with the passage of many thousands of visitors. The low slot at the end was quite tight. For those who haven't heard the story of the poor lady who was stuck for over 10 hours, a media article follows.

*An overweight woman who got stuck in a South African cave trapped 22 fellow tourists for more than 10 hours and had to be prised free with liquid paraffin.*

*The woman became trapped in the Tunnel of Love obstacle in the Congo Caves in Western Cape on New Year's Day.*

*The caves' manager said the woman had been warned she might not be suitable but she insisted on trying.*

*One of those trapped was a diabetic who had to be brought insulin. The woman and the other tourists were unhurt.*

*The rescue operation involved several ambulance teams and a helicopter.*

*Hein Gerstner, manager of Congo Caves, told the BBC it was an "expensive exercise" that could cost 40,000 rand (\$5,700, £2,925).*

*"We don't know yet who will foot the bill," he said.*

*The ordeal began when the woman became stuck just after noon on New Year's Day.*

*Mr Gerstner said the woman was "told at the ticket office that she was too big to take part in the specific section".*

*He said she was again warned by the guide but that it was "very difficult to discriminate".*

*Mr Gerstner said: "The obstacle has a narrow base. She lost her footing and went down in a splits position. There was no way she could get her body weight up."*

*But he said she was young and remained mentally strong throughout and the other tourists took the ordeal "exceptionally well".*

*The tourists, including two asthmatic children, were given blankets, water and chocolate bars as the rescue proceeded.*

*One rescuer was able to climb over the woman to deliver insulin to the diabetic.*

*No drilling equipment was needed and the woman was eventually freed with a pulley and paraffin used to grease the surface at about 11.20pm.*

*She was taken to hospital but is not injured and is expected to be released on Tuesday.*

*Mr Gerstner said: "We believe what goes in, must come out again. People get stuck all the time - that's one of the unfortunate things that happen, it's part of the adventure."*

*However, he said the caves would consider more stringent measures for those entering.*

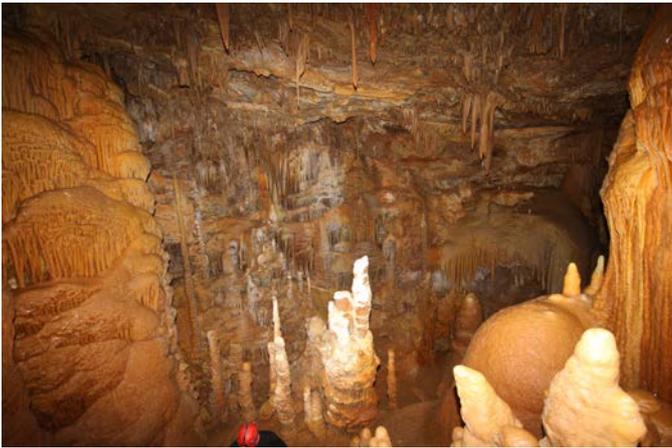
Much better though is to ask Hein to tell you the story. As with any caving story like this, its always funny after the event if no one is hurt, but I imagine the Muslim family stuck on the inside praying and wailing would have added quite a bit to the atmosphere of the rescue!

Cango Two is an easy cave to access, and mostly it's easy walking gazing at mountains of calcite in every imaginable shape. Like many ACKMA members, I have travelled a bit and seen a lot of caves. Cango is right up there with the best for its speleothem development. Steve took us through to Cango Three entrance. This can only be accessed by operating a pump to drain water from a tunnel, and when the level is low enough, crawl through 150m of passage - I imagine hoping like hell that the tunnel doesn't fill too quickly. I would love to have done this for the experience, but it would have added a significant amount of time to the trip and we weren't prepared with necessary safety procedures not in place. Of course I took lots of photos and could easily have taken a lot more. I have included quite a few that give you just a taste of how spectacular this cave is. If you ever get to this part of the world, make sure you visit Cango.



*Helictities in Cango Two. The image on the right is a closeup of a single helictite that is just right of centre in the middle of the left image. It circles about 17 times - a cave guide's nightmare trying to explain how and why that grew like that!*

*Photos: Steve Bourne*



# GEOPARKS AND THEME PARKS: A SPECTRUM of CAVE and KARST EXPERIENCES in GERMANY and the UNITED KINGDOM

Cath Loder

Canberra Speleological Society

Not far from Stuttgart, Germany is a karst wonderland. The Schwäbische Alb (Swabian Alps) Geopark is located in the state of Baden-Württemberg and runs in a North-Easterly direction from Hochrhein towards Nördlinger Ries. The Geopark has a plethora of activities that people can experience including caves, museums, fossicking sites, natural wonders and archaeological sites. On a visit to Germany in September 2015, I was fortunate enough to spend a few days in the Geopark region. Soon after in December 2015, a visit to the United Kingdom provided an opportunity to visit Wookey Hole to the west of London. Below I will share some of my experiences from these visits.

## Germany – September

Using Reutlingen, Germany (in the central area of the Swabian Alps Geopark) as a base, a number of sites were able to be visited across a three-day period. A hire car made it easy to move between each of the sites, particularly on a limited timeframe, but some of the areas were also accessible by public transport. In hindsight it would have also been just as easy to stay at local accommodation close to each site, which would have added to the local experience and provided more time to explore the karst region!

### Karls und Bärenhöhle (Charles and Bear Cave)

The Charles and Bear Cave is a single cave attraction offering guided tours and a surface karst walk. Supporting facilities include a beer garden, café, children's playground and souvenir hut. The tour is not expensive, priced at a modest €4 (approximately AUD \$6.40\*) per adult for a tour that lasts approximately 40 minutes. The tour is only offered in German, with a written English translation of key highlights also available. Fortunately, on the day of my visit, my husband and I were the only participants on the tour and the guide was more than happy to adapt his interpretation to personal interests and to facilitate translation!

The cave is known for the fossils that were found within it, including the complete fossil remains of bears, other animal remains, human remains and artefacts. A bear skeleton is on display in the cave and visitors can still see some fossils encased in a flow stone floor of the cave. Whilst some of the interpretation addressed the bear fossils, for more in depth information we were referred to the nearby University of Tübingen.

Although the cave, like many others, has suffered from early visitors removing various elements, it still has some very beautiful features which are now protected with wire fencing. Some sections of the roof had good examples of re-solution, but unfortunately a little obscured by the vast amount of lampenflora that was present in the cave. Despite recognition of lampenflora as an issue and efforts at control through lighting changes (which sounded as though they were problematic also), it appeared as though they were



*A bear skeleton within Bärenhöhle Cave  
Photo: Cath Loder*

somewhat defeated at trying to remedy or prevent the problem getting worse.

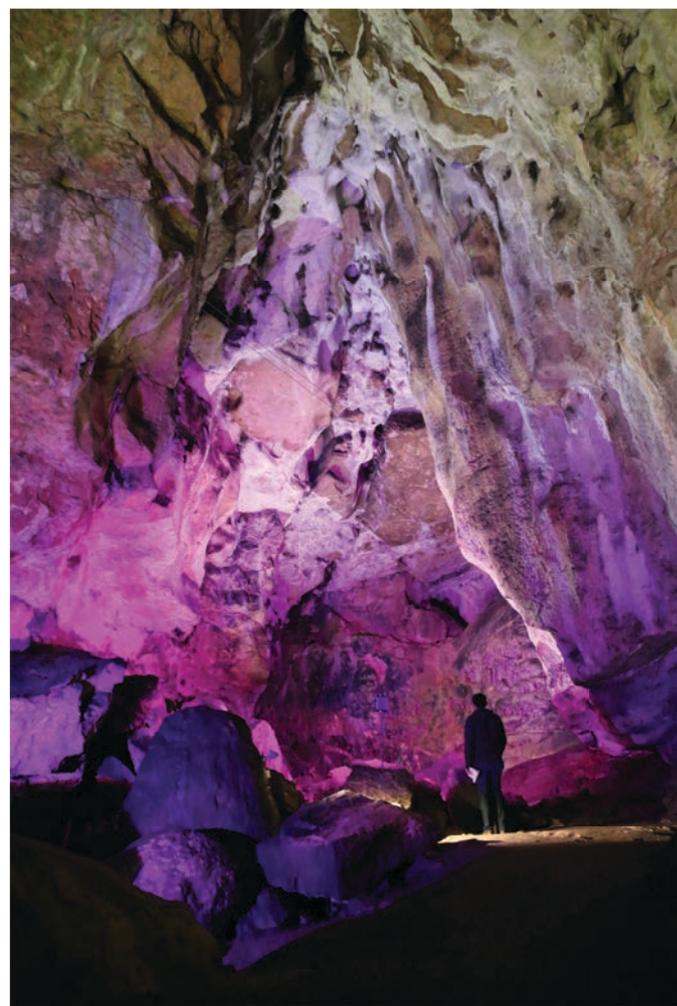
Having noted over 30 cars in the car park and not having seen another visitor around the cave area, the conversation also focussed on the small theme park located at the site – Traumland (translation: Dreamland). Having made a good connection with the guide through our interest in caves, he intimated to us that he was somewhat saddened that many people, particularly young families that visit the area, are not interested in the cave and just want to go to the theme park. Exiting the cave at a different area to the entrance, one has to walk past Traumland on return to the ticketing area. It was certainly not a development that complemented the natural environment or even remotely fitted in to its surroundings.



*Re-solution features on the roof of Bärenhöhle Cave  
Photo: Cath Loder*



*Entrance to the Traumland theme park. A Ferris Wheel and many other similar rides and attractions are located within the fences of the theme park.  
Photo: Cath Loder*



*One of the larger chambers lit with coloured lighting (Hans Loder in the lower right of picture for scale).  
Photo: Cath Loder*

**Nebelhöhle (Fog Cave)**

Fog Cave can be visited as a self-guided tour. With over 450m of pathway within the cave there are opportunities for visitors to see the cave up close and feel dwarfed in the larger chambers towards the end of the cave. An information sheet in English was available from the ticket office which gave some detail about the cave, how it formed, bats and other interesting facts relating to the cave.

Dogs are allowed in the cave and during our visit we noticed muddy footprints over a cross-section of stalagmite that was a feature highlighted in the tour notes and scratch marks along a section of footpath before finally coming across the dog and its owners. It was interesting to observe the behaviour of the visitors with the dog. The visitors were doing all the right things such as staying on the pathway, however the same wasn't applying to the dog despite having it on a lead. Perhaps this is a demonstration of one way that a self-guided tour is ineffective in building a true level of understanding and respect for a cave environment with people that visit it.

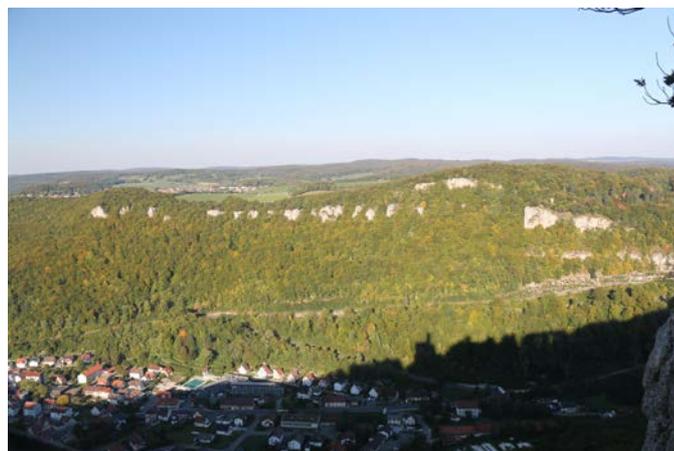


*Dog prints over the cross-section of stalagmite which was removed to be utilised as panelling in a castle.  
Photo: Cath Loder*

As with Bärenhöhle Cave there was recognition of lampenflora as an issue as there were a couple of paragraphs in the tour notes dedicated to it, but clearly not much action being taken to prevent or reduce the issue due to the level of growth seen throughout the cave.

**Lichtenstein Schloss (Castle)**

Within close proximity to both Bärenhöhle and Nebelhöhle is Lichtenstein Schloss, a place where the natural landscape morphs into a built landscape. Whilst the castle is certainly an interesting feature, the site provides some great views over the landscape. The castle is perched precariously atop a limestone outcrop and looks across a valley towards a number of other limestone outcrops in the area



*View from Lichtenstein Castle over the town of Honau, with limestone outcrops along the top of the hill behind the town.  
Photo: Cath Loder*



*Lichtenstein Castle is a feature that stands out in the landscape  
Photo: Cath Loder*

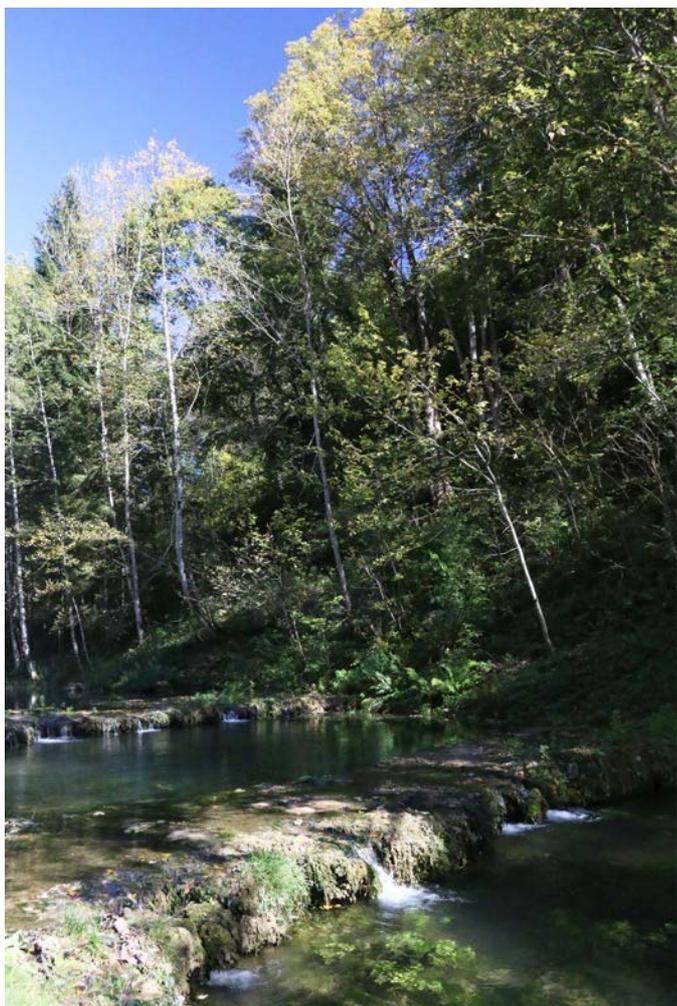
**Wimsener Höhle**

Travelling through agricultural fields and rolling hills, the drive into the Wimsener Höhle area is definitely a scenic one. Quite unsuspectingly the drive then changes to a very narrow winding country road which drops you steeply into a valley to a guesthouse, trout farm and cave; definitely no buses!



*The Zwiefalter Ach  
Photo: Cath Loder*

A small ticket office / souvenir shop is located at the cave entrance, however this was unmanned at the time we visited the cave. Enquiries at the guesthouse pointed us in the direction of the guide, who did not seem at all



*Tufa features along the Zwiefalter Ach  
Photo: Cath Loder*



*Entrance to Wimsener Höhle  
Photo: Cath Loder*

interested in taking a cave tour, seeming too preoccupied with other business.

Whilst waiting for the guide to become less busy with other matters, we took a look around the area. The Zwiefalter Ach is the river that passes through the area and has been dammed to create a section of river for a trout farm. In the rising popularity of eating local, you can indulge in a meal of trout at the guesthouse while dining next to and viewing the very large and friendly trout cruising in the crystal clear water of the farm; it doesn't get more local than that! What seemed a popular walking track also followed the banks of the river, with numerous hikers streaming through and stopping for a bite to eat at the guesthouse. A short stroll along a section of the track was rather pleasant and showed off some of the limestone surface features in the area.

The Wimsener Cave is one of the points at which groundwater emerges from the mountains into the surface waters of the nearby river. Only a very short section of the cave is accessible and done so by boat, very similarly to a Waitomo experience without the glow worms! The tour is very short as only 70m of the cave is accessible and the tour is given in German only. A written English version of the tour was made available, but this had to be handed back at the end.

The tour provided information about the cultural aspects of the area and suitability of the cave to age up to a boat

load of the very popular, potentially teeth breaking German "Springerle" Christmas biscuits, that are baked months before and then stored in a cool, humid environment (typically a cellar) in order to soften them for consumption. While making us hungry and keen to visit the adjacent guesthouse, the opportunity is missed to talk about cave and karst processes at a really interesting location. There is a point of difference at this cave, particularly in comparison to others visited in the area because of the water exiting the cave system.

### **Tiefenhöhle Laichingen**

This cave was unique in the geopark area, being more vertical in nature. The cave is self-guided and the experience is enhanced by a fabulous museum and interpretive display at the entrance area. All of this was offered for the bargain price of €3.80 per adult and included the loan of simple gaiters to protect the bottom of your trousers from getting muddy as you navigated all the ladders and steps in the cave.

Verbal recordings are able to be listened to throughout the cave in German, German for children, French or English by selecting the relevant option at stations throughout the cave. Unfortunately these were quite lengthy and if someone was already part way through a



*Tiefenhöhle*  
Photo: Cath Loder



*Dual purpose infrastructure in Tiefenhöhle*  
Photo: Cath Loder



*One half of the small museum at Tiefenhöhle showing a cross section of cave, a 3D diorama of the cave system and a glimpse of the interpretive panels.*  
Photo: Cath Loder

recording, it made for a relatively disjointed experience if you wanted to listen to the information.

New metal plumbing fixtures had been installed in the cave to assist with cave cleaning and cleverly doubled as hand railing infrastructure. Stairs in the cave were steep in order to navigate through the vertical cave which had plenty of solution pipes and narrow fissures to look through. The cave had some areas of formation, however not as much as Bärenhöhle and Nebelhöhle. As with the other caves, the Lampenflora was healthily growing in many areas.

While the cave was interesting, the small yet very effective museum at the site was a highlight. The written information was in German, however there was enough other material to gain an appreciation without the need to understand what was written. Action packed models of the cave system (inclusive of abseiling, diving, squeezing and picnicking figurines), videos of caving expeditions and information on bats, bat gates, bears, cave invertebrates and cave surveying provided a well-rounded interpretive experience. The small size of the museum was beneficial as it limited the potential for information overload. The site had a number of small booklets for sale that included an expedition book

looking at how the area had been explored, mapped and better understood.

### **Blaubeuren**

The town of Blaubeuren has a couple of noteworthy places to visit including the Urgeschichtliches Museum (Urmu). Urmu highlights the archaeological significance of the caves in the geopark area. It does a fantastic job of connecting the natural features of the area to the palaeontological, archaeological and cultural elements by use of art, educational facilities and interpretive displays. A small entrance fee of €5 for adults is money well spent.

A short walk from the museum is a great karst feature in the Blautopf natural spring. The spring is part of the system that includes Tiefenhöhle. The water is bright blue in colour, similar to waters of the Blue Lakes at Jenolan Caves or Mt Gambier. On the day of our visit the spring was flowing at 915 litres per second. Interpretive signage has been installed at the site with maps showing the cave system, photographs from within the caves and information about water monitoring and quality. Blaubeuren had many original buildings and guest houses. While not staying, we felt that a night in a



*The Blautopf Natural Spring  
Photo: Cath Loder*

traditional guesthouse and dining on the local cuisine would have added to the overall experience.

### **Gammertingen**

Whilst attempting to locate one of the Geopark's natural features at Gammertingen, by pure chance we pulled into a roadside stop with a difference. The key thing about this roadside stop was you actually wanted to spend some time at it! A fantastic sensory garden has been developed at the site which provided an opportunity to take one's shoes and socks off and walk across different textured surfaces, use your nose to smell many different plants and test out the chilly waters of the Swabian Alps. A short length, shin deep outdoor pool flowing with natural spring water has been installed encouraging people to plunge their legs to reap benefit of ice bath therapy for their vascular health. At a temperature of 8-9°C (or as we felt, less) it doesn't take long for the pain of cold to set in. There were typically German signs with polite, but direct instructions for the correct use of the facility. This included the provision of ergonomic wooden benches to allow one to recline and take in the surrounds (including the limestone rock outcrops nearby) before taking the next plunge no sooner than 2 hours later in order to achieve maximum health benefit; not your typical roadside stop!



*Cath Loder testing out the temperature of the spring water  
Photo: Hans Loder*

While not advertised under part of the Geopark, the area uses a built environment to showcase the natural features of the area, connecting people to the landscape in a manner that was completely interactive and different.

### **Göpfelsteinhöhle**

The town of Veringenstadt has set up a self-guided walking tour of cave and karst features around the town area. One of the features on the walk includes the Göpfelsteinhöhle, which is a shelter that early humans used.

Overall, the areas visited in the Swabian Alps provided many visitor experiences and an overwhelming array of cave and karst features. Each area introduces you to yet another piece of the puzzle and the Geopark has done well to promote the area as a whole. The areas visited and mentioned in this article are only a small portion of the full scope of activities and sites that can be visited



*The roadside sensory garden  
Photo: Cath Loder*



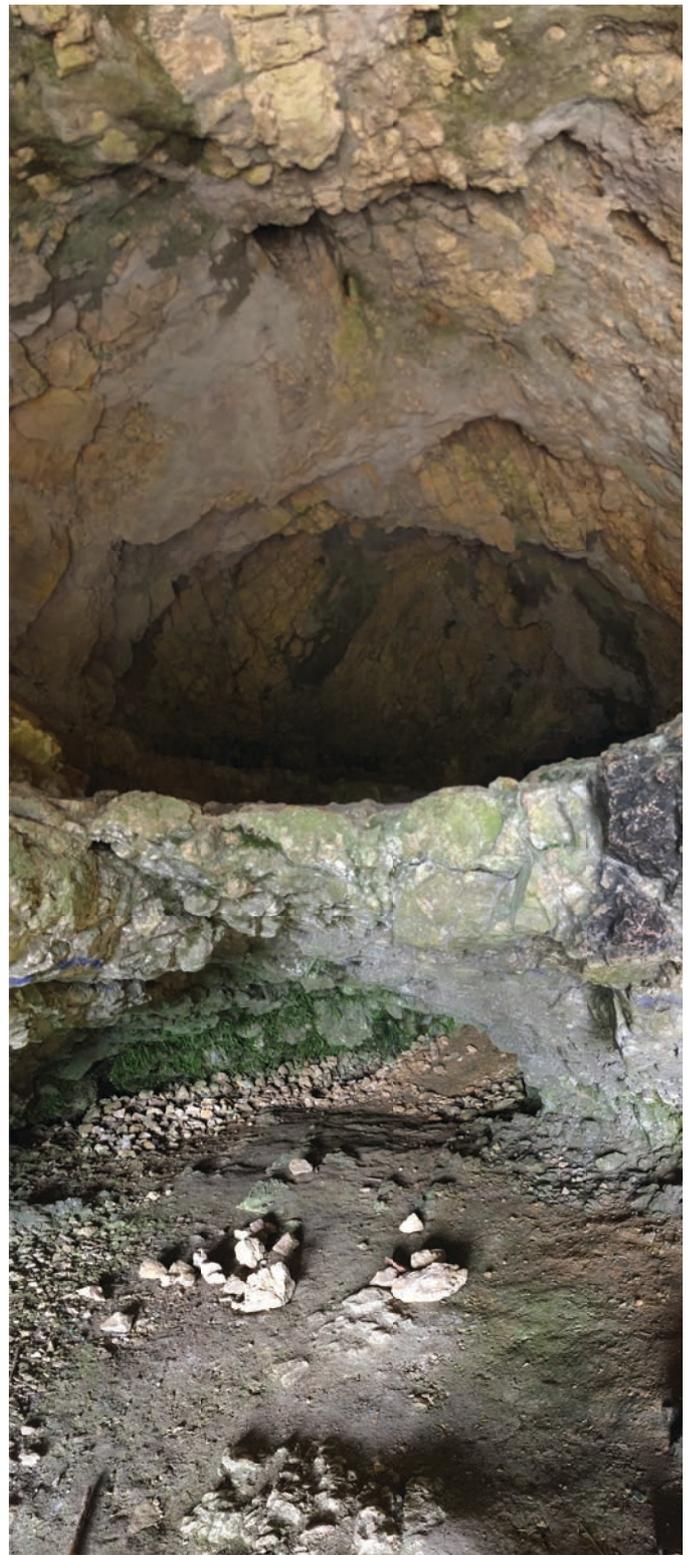
*Göpfelsteinhöhle entrance*  
 Photo: Cath Loder

across the Geopark. In addition, many of the areas have significant walking tracks connecting many of the sites.

## **England - December 2015**

### **Wookey Hole**

Having worked as a guide at Naracoorte and Yarrangobilly Caves, it was not uncommon for visitors to



*The multi-level shelter area, note hanging shelf in central area.*  
 Photo: Cath Loder

mention Wookey Hole as a cave they had visited. It intrigued me as a location, due to the vast array of stories visitors would share about the site.

Arriving at the site we sought out the the ticket office to find out more information about what was on offer and



*First impression of the newly accessible chamber – penguins & icebergs to the right, Santa's chair in the centre and carpet of fairy lights in the top left.*

*Photo: Cath Loder*

being proactive we pointed out that we were keen to visit the cave. The sales person, who had the easiest sales job in the world of selling a cave ticket to someone who loves caves and wants to visit as many as they possibly can, did such a terrible job that we almost walked away. Clearly not listening to what our interest was, the sales person essentially sold the cave as a means in which to get to all the other areas of the site i.e. the theme park areas. At £15 (approximately AUD\$30) per adult the tour was significantly more expensive than those visited in Germany.

The cave is accessed by guided tour only and took approximately 45 minutes. It was somewhat difficult to actually see the cave though as a significant amount of fairy lighting, coloured and animal shaped lights obscured one's ability to actually look at the cave. Some of the larger chambers visited offered glimpses of what the cave was like, however were clearly degrading due to the effects of visitors, including from coin pools, lampenflora and disruption to the floor of the cave as the large group covered much of the area. The guide provided some interpretation on the cave, however clearly did not display a good understanding of the environment.

The cave recently received some "renovations", with a 70m tunnel being constructed through to another

chamber, previously only accessible to cavers. The access tunnel was still a work in progress requiring the wearing of hard hats and scaffolding enabling access into the chamber. In describing this access, however, I can only say that worryingly my husband who has previously worked in underground mining, started to feel quite at home in the environment! Basically he described it as a "cross cut" with the construction and dimensions which would allow a vehicle to access the area! Visitors were sent unaccompanied through this access to the chamber and just left to their own devices. Upon entering the chamber my thoughts turned from anticipation of seeing a relatively unspoilt section of cave to sheer dread at having paid an entrance fee that ultimately supported this kind of detrimental development. Whilst I was picking my jaw up from the floor I almost missed one of the most interesting cave features I think I've ever seen, due to the distraction of life-size penguins floating on icebergs, snowmen, Santa's chair, sleigh, reindeer and thousands of fairy lights covering up the chamber, complete with signs about toxic waste in the water. The chamber has an amazing feature that appears like a cross pattern of rillenkarren and it was a real shame that there was not only no information provided, but it was significantly covered over with fairy lights. It was incredibly disappointing to see such a development occur in an age where knowledge of environmental impacts and



*The most interesting part of the cave, unfortunately somewhat obscured by a few reindeer, a sleigh and an overload of fairly lights.*

*Photo: Cath Loder*

sustainable resource management are far better than what this development has to offer.

Upon exiting the cave system, the only way to exit the site was to pass through the maze like theme park area. Snippets of information on cave exploration and visitation could be found, yet the connection of most of the activities were not clear in their relationship with the cave or environment of the area. There is plenty of opportunity to really improve the overall Wookey Hole experience, appeal to a broader audience and manage the cave system in a more environmentally sensitive manner.

### **Overall impressions**

Throughout visiting the sites in Germany, for the first time I really experienced what it was like to not understand the language the tour was in. Receiving a translation on a piece of paper, whilst having the benefit of having someone with me who understood the tour allowed me to realise first hand how this can lead to a loss of connection with a guide and that many elements can be lost in translation.

Many workplaces have regular performance reviews with staff, including elements related to personal development and training within their role. Whilst having fluency in languages other than English is often regarded as



*Santa's Chair*

*Photo: Cath Loder*

beneficial in the hiring process, how many places are offering the opportunity for guiding staff to develop in their roles by learning another language?

Last, while these were new cave and karst features to view, the visitor experience was very similar to many others. Innovation is a buzz word at the moment and perhaps it is time for some more appropriate innovation in visitor experiences in caves.

# Speleo 2017

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## Caves in an Ancient Land



*Image of Chillagoe by Alan Pryke*



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