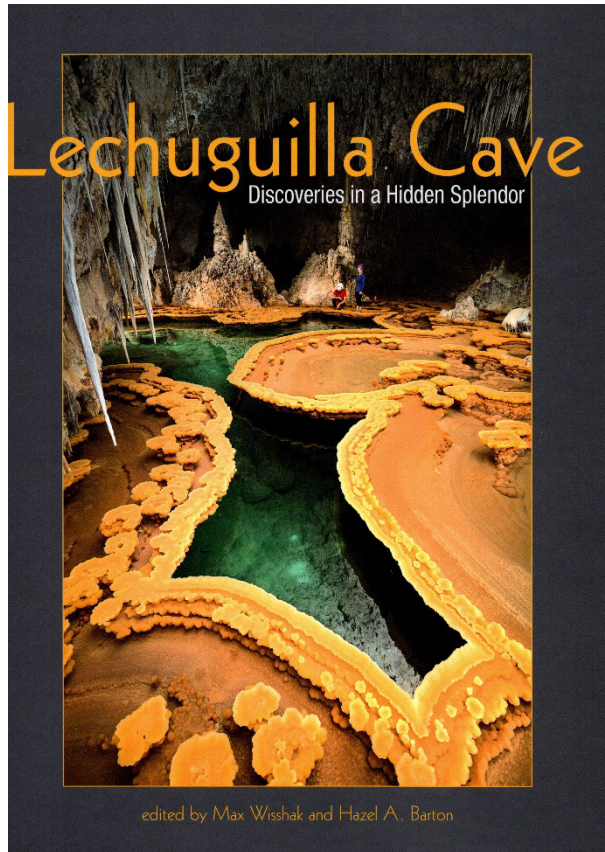


Resources

BOOK REVIEW by Andy Spate

Lechuguilla Cave: Discoveries in a Hidden Splendor Max Wisshak

This is a remarkable book about a remarkable cave – named after a plant! The book talks about *Agave lechuguilla* (little lettuce) as follows:



“Yet the agaves are far from lettuce like, with thick, succulent leaves that end in vicious spikes capable of puncturing a car tyre. If you are fortunate to be around for the one week during its lifespan when the Lechuguilla plant blooms, you will witness an impressive head of colorful flowers that bathe the desert in a pungent smell.” (p15)

Let's start by looking at the publisher's blurb:

“Lechuguilla Cave is one of the most beautiful caves on Earth. Since its discovery in 1986, more than 240 kilometers of cave has been explored – with no end in sight. Owing to its geologic setting and unusual process of formation, the cave contains a remarkable diversity of rare minerals and formations, which have helped change our understanding of how caves form and the microbial life they can contain.

In this book, the most active explorers of the cave show the features that made it famous and reveal new discoveries in terms of beauty, scale, and science. Through their writing and photography, they take the reader on their journey of preparing for, and exploring, this remarkable cave. They describe how to successfully live and work in the underground and highlight the challenges that must be overcome to discover and map new passages. ... Finally, the extraordinary lengths undertaken to conserve Lechuguilla are illustrated, and how such efforts go hand-in-hand with exploration and photography to reveal the intriguing nature of this wonder of the underground.”

Sounds pretty good already, doesn't it? I am going to stick my neck out and say Lechuguilla is the most remarkable cave that we know of around our globe. A bit like asking who the most beautiful woman is ... this statement will get me into trouble!

At first glance this is a 'coffee table' book – lots of images but not much else. At a better look one's appreciation of the book changes dramatically. Actually, there is heaps of 'else' – some 13 chapters written by a variety of experts. There are also three well-written forwards and one afterward. These are supplemented by a comprehensive bibliography, a fact page documenting dimensions, surveyor's efforts and much more, and then brief biographies of the 36 contributors. The final page, 'Imprint', details facts about this wonderful book including attributing the photographers to images throughout the book.

The book has 258 wonderful images, a wonderful, 3-D model covering four foldout pages, various forwards etc and the 13 explanatory chapters which vary in length from eight to 42 pages of substantive discussion.

Image: Helictite growing upwards from the tip of a soda straw. Photo Max Wisshak



I am going to list the contents here to give you an idea of the scope of the discussions:

- Hidden Splendor (opening statement by Johnathan B. Jarvis, former Director, National Park Service)
- Fragile Beauty (forward)
- Greatness (forward)
- Beginnings (introduction and editors' preface)
- Discoveries
- Speleogenesis
- Speleothems
- Water
- Hidden Life
- Preparation
- Camp Life
- Exploration
- Mapping Mazes
- Photographing Darkness
- Rescue
- Conservation
- Best of the Best (closing remarks)
- Fact Sheet
- Bibliography
- Contributors

Each of the chapters is preceded by a double page image. Unfortunately, this means that the splendid images are somewhat distorted by the fold between pages. It is also a pity these double-page images are not identified as to place, etc. These are very minor quibbles given the overall quality and substance of the book.



Some of the tallest snake dancers in the cave, aligned along a fissure in the flowstone floor. Max Wisshak. Photo of a double page spread from the book.

Whatever else this glorious book tells us about the glorious cave one cannot be utterly amazed by the variety of speleothems and the very complex mineralogies in this unusual cave. The images are simply stunning! And the scale of the speleothems is simply astonishing! Six metre gypsum chandeliers, 4.6 metre straws, six metre gypsum hairs, and massive calcite stalagmites and columns up to 24 metres tall! A flowstone cascade over 200 metres in height!

Lechuguilla Cave is formed in five separate limestone units by ascending acidic waters. The profusion of gypsum and sulfur lends support to speleogenesis by sulfuric acid dissolution. The sulfuric acid is believed to be derived from hydrogen sulfide that migrated from nearby oil deposits. Therefore, this cavern formed from the bottom up, in contrast to the normal top-down carbonic acid dissolution mechanism of cave formation that we are used to in Australia and New Zealand.

As well as a book full of stunning images we have accounts of the remarkable climbs and other extreme exploration efforts, the camping arrangements and, most crucially the efforts made to conserve the cave and its features as it is carefully explored.

Lechuguilla is the third longest cave system in the world – surpassed by Mammoth Cave, Kentucky, and the Clearwater system in Sarawak, Malaysia. Let's look at some other statistics associated with this remarkable cave:

Total length – 244,790 m
Maximum vertical range – 484 m
Length of ropes rigged – 8,327 m
Number of survey stations – 40,695
Tallest dome climbed – 163 m

The book is edited by Max Wisshak and Hazel A. Barton.

Max's bio in the book reads as follows:

Geoscientist and Publisher based in Germany. Became addicted to Lechuguilla in 2006 and regularly leads expeditions ...

Hazel's is:

Professor of Biology and Geoscience ...specializing in cave microbiology. Expedition leader and cartographer ... in over 30 expeditions ...

It is published by Max's own publishing label *speleo photo editions* (www.speleo-photo.de) in 2022 and there is a new website entirely dedicated to the book and the cave at www.lechuguilla-cave.info.

The book has:

- 240 pages
- 258 colour photos and seven drawings
- Double-foldout page with 3D model of the cave
- Hardcover 22.5 x 30.5 cm
- 5-color offset print on coated matt premium paper
- Carbon-neutral production
- ISBN 978-3-9821714-2-5

Max Wisshak has also published *New Zealand Karst*. A promo of this book can be seen at <https://www.speleo-photo.de/editions.html>. There will be a review of this book in the March Journal and a display copy will be available at the conference next May.



I paid AU\$196 for my copy of *Lechuguilla Cave* with about AU\$80 being the postage cost! However, it can be ordered direct from Max for EUR59.90 (about AU\$93) with and only EUR21 shipping to Australia (AU\$33) at the above links. Expensive but beautiful and informative.

Image: Subaqueous pool deposits. Photo Stephen Eginore – used with permission

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