***Cave and Karst Science*, Volume 52, No.1 (April 2025)**

**Contents and Abstracts**

**Note:**

Editorial p.2

**Arcuate Nest Ridges — a biogenic morphotype associated with cave-dwelling swiftlet**

Joyce LUNDBERG and Donald A McFARLANE

**Abstract**: Arcuate Nest Ridges are small (6 – 10cm-wide), arc-shaped, rock ridges that protrude (by some 1 – 2cm) from rock faces where cave-dwelling swiftlets nest. The nests (mainly of the White-nest swiftlet *Aerodramus fuciphagus*) are made of hardened saliva, and strongly glued to high-angle and commonly sheer cave walls and ceilings. The cement-like saliva impregnates the pores of the rock surface under the area of contact of the nest, thus protecting that spot from the condensation corrosion (usually biogenic in origin) that typifies the rest of the open cave wall. Over the centuries of nest-site fidelity the surrounding cave wall corrodes back but the protected arc remains emergent from the rock face, to be used again each nesting season. The number of abandoned nest sites, as indicated by empty arcuate nest ridges, can be used as a conservation tool to monitor effects of harvesting or population decline.

**Pages**: pp. 3 – 6.

**Keywords**: Biogeomorphology, condensation corrosion, *Aerodramus*, edible nests, nest-site fidelity.

**Date:** Received: 07 February 2025; Accepted: 19 February 2025.

**Classification**: Report.

**3D mapping of karst caves of varied morphological complexity, using mobile LiDAR scanning**

Fran DOMAZETOVIĆ, Nina LONČAR, and Ivan MARIĆ

**Abstract**: Caves are among the most common endokarstic features within the Dinaric Karst of Croatia, although currently only a few have been adapted for touristic purposes. Because of their complex morphology, 3D mapping and inventorying of caves commonly present significant challenges. However, detailed 3D mapping is crucial to the sustainable management of show caves, because it allows better understanding and supervision of the cave geomorphological characteristics and their potential vulnerability. Traditional cave mapping is a lengthy and demanding process, which often results in insufficiently accurate, incomplete, or even false, representations of cave morphology. Furthermore, use of the existing traditional methods requires prolonged and extensive speleological surveys. To increase the efficiency and value of 3D mapping, traditional methods are gradually being replaced by various geospatial technologies. This study examines the potentials and challenges for the application of mobile LiDAR scanning (MLS) for detailed 3D mapping of selected karst show caves of varied morphological complexity (length, area, volume, etc.).

Detailed 3D mapping, using the Zeb Revo MLS, was carried out for three selected show caves with different levels of morphological complexity: Modrič Cave near Rovanjska (Croatia), Vrlovka Cave near Kamanje (Croatia) and Biserujka Cave on Krk Island (Croatia). Special attention was paid to the different challenges encountered during the application of this technology to the 3D mapping of the three caves, as well as to the difficulties that occurred during the processing of the large amount of data collected. Based on the 3D mapping results, detailed high-resolution 3D models of the caves were created, from which the parameters of selected morphometric features were calculated. The application of MLS enhanced the level-of-detail (LoD) of the cave models significantly, thereby improving the results of the cave morphology analyses and geomorphometric assessments. Because of its high mobility, rapid acquisition of dense point clouds, and superior accuracy, MLS demonstrates great potential for detailed 3D mapping of complex karst cave systems.

**Pages**: pp. 7 – 18

**Keywords**: mobile LiDAR scanning; 3D cave mapping; Dinaric Karst; geomorphometric analysis; Croatia.

**Date:** Received: 16 September 2024; Accepted: 03 December 2024.

**Classification**: Paper.

**Carbonatite – an overlooked karstic rock (and its relationship to Life, the Universe and Everything)**

Trevor FAULKNER

**Abstract**: This Report aims to raise awareness among karst specialists of the existence and nature of a relatively rare, dominantly carbonate, rock-type – carbonatite. This originated in upper mantle melts at high temperatures, but after rising to the lithosphere, it is capable of hosting the development of karstic landforms.

A second aspect of the Report looks more widely at what appears to be an inextricably linked relationship between sedimentary limestone and the development of life. Indeed, the Earth seems to have had such a favourable and extremely rare astronomical and geological history, which was absolutely dependent on the presence of the Moon, that life and biotic sedimentary limestone here might be unique in our galaxy, and perhaps universally. If any calcium carbonate, necessary for the development of early cyanobacterial life, was present on Earth at its creation, it would have been in the form of a carbonatite, because the collision that created the Moon melted the lithosphere.

**Pages**: pp. 19 – 26

**Keywords**: Scotland, stromatolite, life on Earth, subducted limestone, karst, Moon, extra-terrestrial.

**Date:** Received: 03 January 2025; Accepted: 18 March 2025.

**Classification**: Paper.

**“If you go into the woods…” A summary of a faunal assemblage, including brown bear (Ursus arctos), recovered from Hallowe’en Rift, Mendip Hills, Somerset, UK**

Vince SIMMONDS

**Abstract**: Excavation for speleological purposes is an intrusive process and as such it is vital that sediments and other deposits contained within caves are recognized, recovered where necessary, fully recorded and reported so that information about them is not lost and can be disseminated allowing for further research. During the ongoing excavation and exploration of Hallowe’en Rift, Mendip Hills, Somerset, a faunal assemblage has been recovered comprising steppe bison (Bison priscus), brown bear (Ursus arctos) and ?horse (Equus ferus). The assemblage is consistent with those found from nearby sites, such as Hyaena Den and Rhinoceros Hole, and taken together with U-series dating of speleothems suggest a Mid-Late Devensian date, MIS 3, c.59 – 24 ka. A Pleistocene date for the faunal assemblage recovered from Hallowe’en Rift further extends the list of ice-age mammalian faunas found in Mendip cave sites.

**Pages**: pp. 27 – 31

**Keywords**: Glacial; interglacial; mammal assemblage-zone [MAZ].

**Dates:** Received: 28 February 2025; Accepted: 15 March 2025.

**Classification**: Report

**An interim Report on the recovery of a woolly rhinoceros skull  
and other faunal remains from a small cave at Fairy Cave Quarry, Mendip Hills, Somerset, UK**

Vince SIMMONDS

Abstract: This brief interim Report introduces one aspect of the history of excavations in Quarter Way Up Hole, a small cave in Fairy Cave Quarry, near Stoke St Michael, in Somerset, UK. During the excavations, mammalian remains, including those of woolly rhinoceros (Coelodonta antiquitatis), were encountered and recovered. Initial observations are described broadly and related comments are provided. Research is continuing.

**Pages**: pp. 32 – 34

**Keywords**: mammalian faunal assemblage; mammoth steppe; Middle Devensian; MIS 3.

**Dates**: Received: 18 March 2025; Accepted: 23 March 2025.

**Classification**: Report.

**FORUM pp. 35** **–** **39: brief contents:**

**Cave and Karst Science — Editorial Team**

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**Classification**: Forum.

**Book Review**

***Australian Caves and Karst Systems.*** [John Webb, Susan White, Garry K Smith (eds.), 2023]

Reviewed by Tony Waltham.

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**Classification**: Forum.

**Correspondence**

Deneholes: southeast England.

From: Terry Reeve.

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**Classification**: Forum.

**Revisiting “useful things”…**

**Notes for Authors: the importance of a well-crafted abstract or what, exactly, are your conclusions?**

Stephen K Donovan.

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Classification: Forum.

**Photo Feature**

**Elephant’s Head Chamber, Victoria Aven Series, Peak Cavern, Derbyshire, UK.**

By Phil Wolstenholme.

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**Classification**: Photo Feature.

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