Cave and Karst Science

Transactions of the British Cave Research Association

Volume 52, Number 2, August 2025

ISSN 1356–191X

Contents

Cover photographs:

Cenozoic limestones crop out widely on the North Island of New Zealand, and the most well-known of the cave and karst areas developed on them is the King Country, about 190km south of Auckland, where about 400km² of limestones crop out in discontinuous patches, with a similar area of karstified limestone at sub-crop beneath younger rocks and sediments. There are many fine caves in the King Country, including the world-famous Waitomo Glowworm Cave, and the collection of photos on the front and rear covers provides a sample of typical cave passages and speleothem.

***Front cover**: The "Springy Thingy" in Agamemnon Cave, one of several caves in the Mangaotaki area of the King Country that contain extensive gypsum speleothem deposits.*

***Rear cover**: a collage comprising seven images from caves in the King Country, as outlined above. Specific details of the seven images are provided below. All photographs were taken in 2020 by John Gunn, with assistance from David Shearsmith.*

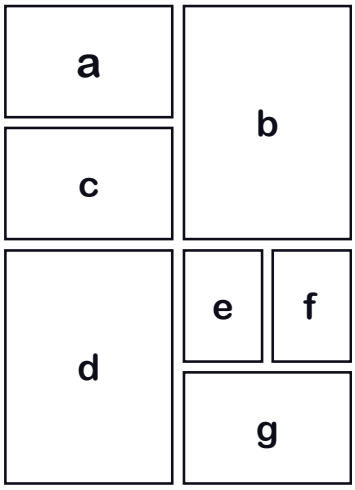

Image **a** *Cave wetas [wētās] – crickets –* (Pachyrhamma cavernae) *near an entrance to Mangapohue Cave, Waitomo.*

Image **b** *Adam Hartland (on the right of the photo) and colleagues collected water samples from this flowstone in the Organ Loft, Waipuna Cave, and used them to investigate how the drip water hydrochemistry responds to atmospheric circulation dynamics in the southwestern Pacific region. Beth Fox and team also used this site to study how magnetic particles are transported to speleothems by floods and drip water.*

Image **c** *The Portcullis in the Castle Grotto of Hollow Hill Cave, Waitomo.*

Image **d** *Gardners Gut Cave, Waitomo, is the longest on North Island with about 12km of passage. The fine vadose canyon is 10 – 15m high but, in places, has been almost blocked by extensive flowstone that is regularly submerged and, hence, must have formed during a drier period.*

Image **e** *One of the other fine speleothems in Waipuna Cave.*

Image **f** *Calcite speleothem in Agamemnon Cave, Mangaotaki, a few tens of metres from the gypsum speleothem highlighted on the front cover.*

Image **g** *Cymru Passage, Mangapohue Cave, Waitomo. John Gunn rests his hand on an oil drum that he (and assistants!) installed in 1975, together with a 90° v-notch weir that can be seen downstream. In 1976 a water-depth recorder was mounted on top of the drum, with a float and counterweight that passed through the hole. Water depth was recorded by an ink pen on a paper chart, and this rotated once a week, being driven by a clockwork mechanism. The charts were changed weekly for 18 months as part of John's doctoral research; a modern data logger would run for at least a year!*

Editors: Dr D J Lowe **d.lowe@bcra.org.uk** 23 Cliff Way, Radcliffe on Trent, Nottingham, NG12 1AQ, UK.
Professor J Gunn **j.gunn@bcra.org.uk** GEES (School of Geography, Earth and Environmental Sciences), University of Birmingham, Edgbaston, Birmingham, B15 2TT, UK.

Cave and Karst Science (ISSN 1356–191X) is published three times a year and issued free to all appropriately paid-up members of the Association. As BCRA's science journal, it has been published continuously since BCRA's foundation in 1973, firstly as the *Transactions of the British Cave Research Association* (ISSN 0305–859X) then, from 1982 to 1993, as *Cave Science* (ISSN 0263–760X).

Annual subscriptions are available to non-members at a rate of £28. For destinations outside the UK. extra postage of £3 (Europe) and £6 (outside Europe) applies. A special discounted subscription rate is available to *bona fide* students. For more information about BCRA publications and publication sales, please refer to the details on the inner back cover of this Issue.

Publisher: The British Cave Research Association, The Old Methodist Chapel, Great Hucklow, Buxton, Derbyshire, SK17 8RG, UK. The BCRA (**enquiries@bcra.org.uk**) is a UK Registered Charity, Number 267828. It is a constituent body of the British Caving Association.

First edition printed by MTP Media Ltd., Kendal, Cumbria, UK. [Subsequent digital reprints by the BCRA.]

EDITORIAL

John Gunn and **David Lowe**

An Editor's lot sometimes amounts to famine or feast and, from a position of having some doubt whether we could fill even a 32-page Issue, we are pleased to offer you 52 pages of reading. Not content with that, we have, in our opinion, surpassed Rod Stewart's use of AI to bring deceased rock stars to life, by planning to feature several articles that were started by our sadly deceased friend David Gill, but not completed in his lifetime. Several of Dave's friends and colleagues have contributed time and knowledge to help complete four submissions, the first of which is published in this Issue. Particularly, we thank Martin Laverty for driving the endeavour forward, and for the many hours of work he and the other authors have put into bringing the contributions to their present form. We also thank the reviewers of the material for understanding its context, and for their helpful and sympathetic comments.

Whereas we have noticed increased interest and support during recent months, and made progress in bringing-in content, we have been less successful in encouraging photographers to submit images suitable for the front and back covers and in soliciting contributions to our "Photo Feature" page. Our ideal for illustrating the front and back covers has always been to use photographs provided by authors of articles submitted, but suitable images seem to appear only rarely. Failing that, using "third-party" photographs that have a clear and obvious link to published content is our most common alternative option. For the present issue the link is particularly tenuous because, in the absence of any suitable images from authors, JG has provided a set of photographs from caves in the Waitomo District of New Zealand. The link is to the historical Paper by Max Moseley, which centres on the discovery of 'well-shrimps' in New Zealand, although assiduous readers will note that the discovery was not in the Waitomo area. JG has also provided another Photo Feature and, hopefully, has shown, that a small number of observations, with a few supporting photographs, can make an interesting story. Lest there be any doubt, as editors, we prefer not to use our own material, so please do send us your offerings!

As is our usual practice, we can now turn more specifically to the contents of this Issue, which include six submissions relating wholly or partly to Jamaica, New Zealand, Sarawak and the UK – though some of the considerations they contain spread more widely than this listing implies. Broadly and alphabetically the material falls into the general but inevitably overlapping topic-areas of archaeology, "cave science history", geology/geomorphology, palaeontology, speleobiology, speleogenesis and zoology.

Looking at them in their order of presentation, the first Paper is the latest of Max Moseley's ongoing series of articles considering – or reconsidering – historical aspects of British speleobiology. Specifically, he examines the life and career of Charles Chilton, his studies of "well shrimps" – initially in New Zealand – and the wider implications of his insights and contributions in terms both of speleobiology and the controversy that surrounded the nature of "evolution" during the late nineteenth and early twentieth centuries. Next is a rather shorter, but also partly historical, contribution from Phillip Murphy and Andrew Chamberlain, updating the records of flint implements that were unearthed during archaeological investigations at Kirkhead Cavern in Cumbria (UK), by members of the former Lancaster Cavern and Mine Research Society, commencing in the late-1960s. Moving back towards zoology, the next article, by Stephen Donovan, reviews the impressive variety of invertebrate fossils that have been described from Wait-a-Bit Cave, in Jamaica, where the author points out the ongoing opportunities for launching potentially valuable research projects. Back in the realms of archaeology, Vince Simmonds presents an interim report and appraisal of research, including ^{14}C dating of skeletal material, at the Kewstoke Road rock shelter, Weston-super-Mare (UK). Alongside details of the ongoing research, the Report provides brief comparisons with similar sites elsewhere in the Mendip Hills area of southwestern England. Moving halfway around the World, the next contribution comprises an overview of the caves and karst of SW Sarawak, Malaysia. Based in part – as mentioned above – upon unpublished work of the late David Gill, this synthesis was drawn together by Martin Laverty and David Clucas, who also revised and rationalized a series of maps illustrating the karst "blocks" and caves within sub-areas of this relatively lightly investigated part of Sarawak. The final article in this issue was also submitted by Phillip Murphy, and relates to the Stump Cross Caverns cave system, which lies high on the interfluve between Wharfedale and Nidderdale in North Yorkshire (UK). Aspects of the area's geology are presented, along with brief descriptions of the Caverns themselves, local mineralization and associated mine workings, leading to a suggestion that the system owes at least part of its genesis to the dissolutional effects of rising, hypogene, water.

Moving on from the papers and reports mentioned above, the final four pages of the Issue contain a *Forum* contribution that is part of the ongoing "*Notes for Authors*" series, followed by an Extended Photo Feature that describes and discusses hydrological issues related to the Magpie Sough (mine drainage tunnel) that captures and discharges underground water on the south side of the River Wye, west of Ashford in the Water, within the White Peak area of Derbyshire, UK.

Approaching the end of this Editorial, we look forward to the UK's most important annual meetings of cavers, ***Hidden Earth*** at Llangollen [26–28 September 2025 – **https://hidden.earth**], followed by the ***BCRA Cave Science Syposium*** in Bristol (and various Sunday field trips) [11–12 October 2025 – **https://bcra.org.uk/sym/**] As is always the case, both meetings will include stimulating and informative talks that should be developed into papers or reports submitted to *CaKS,* although – sadly – we are not expecting an avalanche. Nevertheless, as a minimum, in our next *Cave and Karst Science* Issue we expect to include abstracts of the papers and poster presentations that are delivered at the *Cave Science Symposium*.

Finally, in closing the Editorial, it is once again our sad duty to record the passing, on 05 June 2025, of another of the World's great speleologists, Wolfgang Dreybrodt. In January 2020 Wolfgang recorded an hour-long interview with Franci Gabrovšek, Douchko Romanov and Georg Kaufmann, as part of the International Association of Hydrogeologists "Time Capsule" series. His personal reminiscences offer an excellent first-hand distillation of the essence of his life and the significance of his work. [**https://timecapsule.iah.org/episode/wolfgang-dreybrodt/**].