

# The North Somerset Mountains

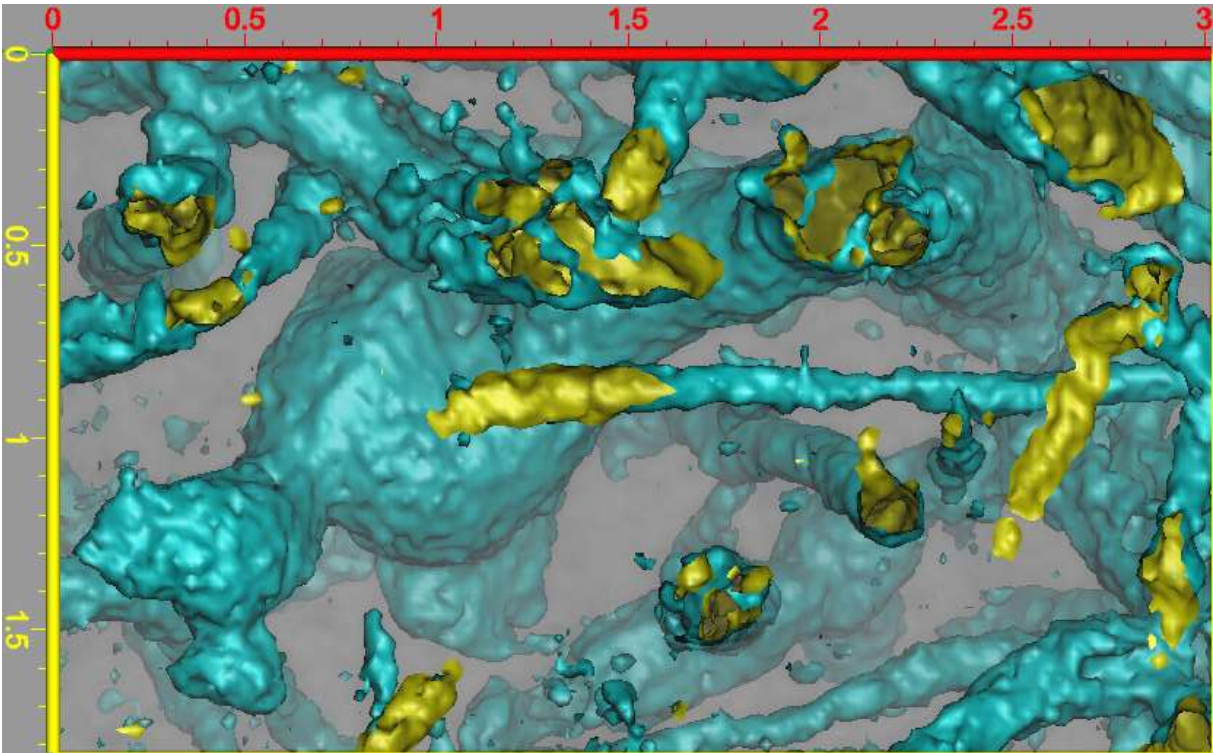
By Mark P. Howson

In the North Somerset and Bristol area, from the late Carboniferous to the Triassic period, or from about 300 million to 250 million years ago, a range of mountains was uplifted during an episode known as the Variscan Orogeny. Now that they have eroded down to mere hills, features that are normally concealed deep within a mountain range are exposed in rocks that pre-date the uplift. These provide evidence of the mountain-building process. As this started, erosion supplied clastic sediments that were deposited with coal seams and plant fossils of the late Carboniferous. With increased uplift, erosion became so intense that any deposits of sediment were re-eroded. Because the mountains were probably at their highest during the Permian, there are no known deposits in the area from this period. By the mid-Triassic, conditions had moderated in what was now a central location in the Pangea supercontinent with a harsh arid tropical climate. Scree and fanglomerate sediments were deposited in high-energy events that almost entirely prevented the preservation of evidence of upland life.

The word 'almost' is used above because the presenter, Mark Howson, has found an exception in cryptic tubular network trace microfossils in the Triassic continental sediments, near his home in Portishead, North Somerset. These occur in clasts of palaeosol that were eroded, transported, re-deposited and preserved in unusual circumstances. They were previously unrecorded and after a 40-year career in international mining geology, Mark has applied and been accepted to research them as part of a PhD in Geology at the University of Bristol. Some of the 3-dimensional network images, obtained via CT-scanning, are quite spectacular, and the presentation concludes with a preview of some of the illustrations for papers that are being prepared for publication.



The presenter at the unconformity with Triassic scree overlying Devonian sandstone.



A trace microfossil chamber in a false colour image from a CT-scan