## **Cave and Karst Science**

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## Front cover photograph:

The entrances to Lingguan Cave (left) and Yanzi Cave (140m wide; 27m high) are prominent on the western cliff face of the Jinfoshan Mountain in the Nanchuan District of Chongqing City in southern China. Jinfoshan is a table mountain with an average elevation of about 2020m, towering above the surrounding valleys, which have elevations of around 700m. Beneath Jinfoshan there are more than 15km of large trunk cave passage typical of that developed in humid tropical karst areas. The size of passage is indicative of enlargement by major rivers, but no traces of their former surface courses remain, and the trunk passages are entirely relict. They are largely at elevations above 2000m and are thought to be the highest elevation extensive horizontal trunk caves on Earth (see further discussion in the Editorial). [Photo by John Gunn.]

**Back cover photographs:** a selection of images relating to the Porcellanous Bed in the Yorkshire Dales. Other than work by the late Dick Glover between the late 1960s and early 1980s, detailed studies of the Porcellanous Bed are in their infancy. The potential role of the bed in guiding cave passage development remains controversial, but a recent revival of interest (see Editorial) might lead to new studies.

- Scoska Cave, Littondale; the Porcellanous Bed, in this case appearing paler than the adjacent rocks, is clearly visible in the passage wall, immediately underlying the present passage ceiling. Pending further study it is unclear whether the passage at this point was conceived between the Porcellanous Bed and the overlying sparry limestone or whether inception occurred beneath the Porcellanous Bed, which has subsequently collapsed as the underlying void has enlarged. Considering the preserved morphology of this passage segment, the latter option appears more likely. (*Photo by Tony Waltham.*)
- The uppermost of three relatively thin beds of porcellanous limestone that are exposed in a shallow valley cutting the western side of Kingsdale (about SD 698773) just a few tens of metres south of the Valley Entrance. Currently it is unknown which of these beds equates to the main Porcellanous Bed occurring elsewhere in the area. Note that minor springs are perched above this porcellanous limestone bed and above at least one of the two lower porcellanous limestone beds at this Kingsdale site; the scale ruler is 1m long. (*Photo by Dave Lowe.*)
- c A sample from the porcellanous limestone bed shown in Photo "b". Note the generally pale grey colour and local signs of the rock's diagnostic sub-conchoidal fracture. White patterns and greenish-brown staining on some of the sample's surfaces are secondary features related to seepage of water along incipient tectonic weaknesses. (Photo by Dave Checkley.)
- d View from the east along the north wall of Gaping Gill Main Chamber. The prominent pale bed some 6m above the chamber floor is the Upper Porcellanous Bed (about 0.5m thick), with the Lower Porcellanous Bed about 2 to 3m below. (Photo by Paul Deakin FRPS.)
- e Exposure of the Porcellanous Bed at SD 784720 near the foot of the main scar not far above the base of the limestone around the head of Crummack Dale; the perspective is slightly unusual as the view is looking upwards from a stance on top of the scree apron. The Porcellanous Bed, which rests on a bed of fine calcarenite grainstone and is overlain by slightly coarser packstone, is about 40cm thick, and the grass gives a general indication of the scale. (*Photo by Tony Waltham.*)
- f Bed of porcellanous limestone exposed on the flank of Kingsdale high above the western end of Twistleton Lane (about SD 691761). The person (just over 1.8m tall) gives the scale, and is touching the main bed identified at this locality. As elsewhere in western Kingsdale, at least one more bed of porcellanous limestone is present within a metre or so above this one. (*Photo by Dave Checkley*.)

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