

Cave and fissure deposits, Quaternary, Bristol and Gloucester region

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Green, G W. 1992. British regional geology: Bristol and Gloucester region (Third edition). (London: HMSO for the British Geological Survey.)

Cave and fissure deposits

There is an extensive literature on the deposits found in the numerous caves and fissures in the Carboniferous Limestone and, to a lesser extent, the Dolomitic Conglomerate of the district. Although the contribution of these deposits to an understanding of the local geology is rarely more than indirect due to their isolated positions, the scattered fossil finds within them bear striking witness to the diversity of the fauna, particularly the larger mammals that inhabited the district in times past.

In recent years, undoubtedly the most interesting discovery has been an extensive fissure deposit uncovered by quarrying operations high above Westbury-sub-Mendip (Bishop, 1982^[1]). It has yielded the richest carnivore and small mammal assemblage of any Pleistocene site in Britain; no fewer than eight species were new to Britain. The deposits extend laterally about 160 m and downwards some 20 m from the surface and comprise older bedded silts, sands and gravels and younger unbedded, bone-bearing breccias and conglomerates. The whole complex appears to have filled a large cave system, whose roof has now collapsed.

The older, sandy deposits, washed in from outside, contain a sparse open woodland fauna of which a small *Bison* sp. is the commonest element. This fauna is dated as not later than Cromerian and probably earlier. The later deposits belong to a carnivore lair assemblage dominated by an extinct species of bear but also with many other carnivores including a dhole (*Xenocyon*), a very large lion and an extinct leopard (*Panthera gombazogensis*), the first and last being new to Britain, and their prey. A red-brown earth pocket with remains of small rodents and insectivorous mammals, derived from an owl pellet accumulation, is also present, but its relationship to the breccias is uncertain. The later faunas date from somewhere within the Cromerian to Anglian interval, possibly from a hitherto undescribed interglacial period. A few large flints are thought to be human artefacts and, if so, are the earliest known record of man's presence in Britain. Elsewhere in the district hippopotamus, straight-tusked elephant and narrow-nosed or steppe rhinoceros (*Dicerorhinus hemitoechus*) are recorded from six localities. All are 'warm' forms of uncertain age but were extinct by Devensian times.

The fullest remains are of Devensian age, though many of the largest animals such as cave lion, hyaena, mammoth, woolly rhinoceros and bison apparently disappeared from the area in late Devensian times. Other forms, including reindeer, giant elk, red deer, roe deer, horse, brown bear, lynx, arctic and common fox, hare, lemming and other rodents and small mammals persisted after the Devensian.

Human artefacts and remains have been recorded from about a dozen caves in the district on both sides of the River Severn and are associated with deposits ranging in age from Ipswichian to Holocene. The latest Palaeolithic culture, a native British product known as the Cresswellian, is well represented in the Cheddar area, where it died out at around the beginning of the Holocene. The

well-known Cheddar man of Gough's Cave, whose bones are dated at about 9000 years, postdates the Upper Palaeolithic occupation levels but predates an extensive stalagmite layer that is present in most of the district's caves and which appears to be related to a climatic change, presumably an amelioration. It approximately coincides with the rapid postglacial rate of sea-level rise at the beginning of the Flandrian.

Reference

- ↑ Bishop, M J. 1982. The mammal fauna of the early Middle Pleistocene cave infill site of Westbury-sub-Mendip. *Palaeontological Association Special Report*, No. 28.

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