
Lamb Leer Cavern

[ST 543 550]

Highlights

Lamb Leer Cavern is a fragment of a formerly phreatic cave system whose position, remote from the present catchments, is strikingly anomalous in the overall pattern of Mendip caves. It contains one of the largest chambers in Mendip and rare stratified aragonite flowstone. The area above the cave was the site for one of the earliest attempts to locate a cave by geophysical methods.

Introduction

Lamb Leer Cavern is located near the northern edge of the Mendip limestone plateau, 2 km south of Compton Martin (Figure 5.1). It is remote from any significant modern swallets and also from the anticlinal core of Old Red Sandstone, which provides most of the allogenic input to the present cave systems in Mendip, and lies more than 100 m above the adjacent lowlands. The cave is developed in fine-grained, chert facies of the upper part of the Clifton Down Limestone, dipping 15° east, and the east-west Lamb Leer Fault passes through it.

Little has been published on Lamb Leer. Descriptions of the passages are given by Barrington and Stanton (1977) and Irwin and Jarratt (1992), and its geomorphology is mentioned only briefly by Smith (1975a) and Stanton (1983).

Description

The cave is accessible through a mined shaft which intersects natural passage at a depth of 20 m. Downslope to the north, 100 m of passage passes through Beehive Chamber, with a 4 m high stalagmite boss at its centre, and continues beneath a 300 mm thick aragonitic flowstone floor to enter the east side of the Great Chamber, 20 m above its floor. The chamber is over 35 m high and 20 m in diameter. From it, a partly mined rift runs west for 60 m to the Cave of Falling Waters, where a small stream sinks in the floor and drains to Rickford Rising (Figure 5.2) (Barrington and Stanton, 1977). North from the chamber is St Valentine's Series, a complex of small phreatic tubes with some larger rifts and chambers, in places well decorated with speleothems. Extensive clastic sediment deposits and calcite and aragonite flowstones are preserved in several parts of the cave.

In 1938, L.S. Palmer undertook a resistivity survey of the area above Lamb Leer, one of the earliest attempts to locate caves by geophysical methods. He found an anomaly over the known cave and also a second anomaly suggesting another large cavity lies 130 m NNW off the Main Chamber (Barrington and Stanton, 1977). Palmer's Chamber, as it is known, remains unverified.

Interpretation

The position of Lamb Leer is anomalous among Mendip caves in its great distance from any present source of allogenic input. All of the cave passages are phreatic in origin, developed below their contemporary water table, yet the adjacent lowlands are now more than 100 m below the level of the cave. The Lamb Leer Fault may have influenced drainage routes and cave development. Large, isolated, phreatic chambers are known in various Mendip caves, but the Lamb Leer chamber is uncommonly large in relationship to its associated passages. The cave's distance from the main catchments on the Old Red Sandstone (Figure 5.1) suggests that it may represent the middle reaches of a system, formerly fed by sinks and vadose inlets much closer to the stratigraphic base of the limestone, whose upstream extension has been destroyed by surface lowering of the limestone plateau. The comparable middle reaches of the active Mendip caves of the Priddy–Wookey system (Figure 5.15) and the Charterhouse–Cheddar system remain inaccessible. Only the caves of the smaller St Dunstan's Well catchment can be explored over most of their length (Figure 5.20). Hence Lamb Leer may

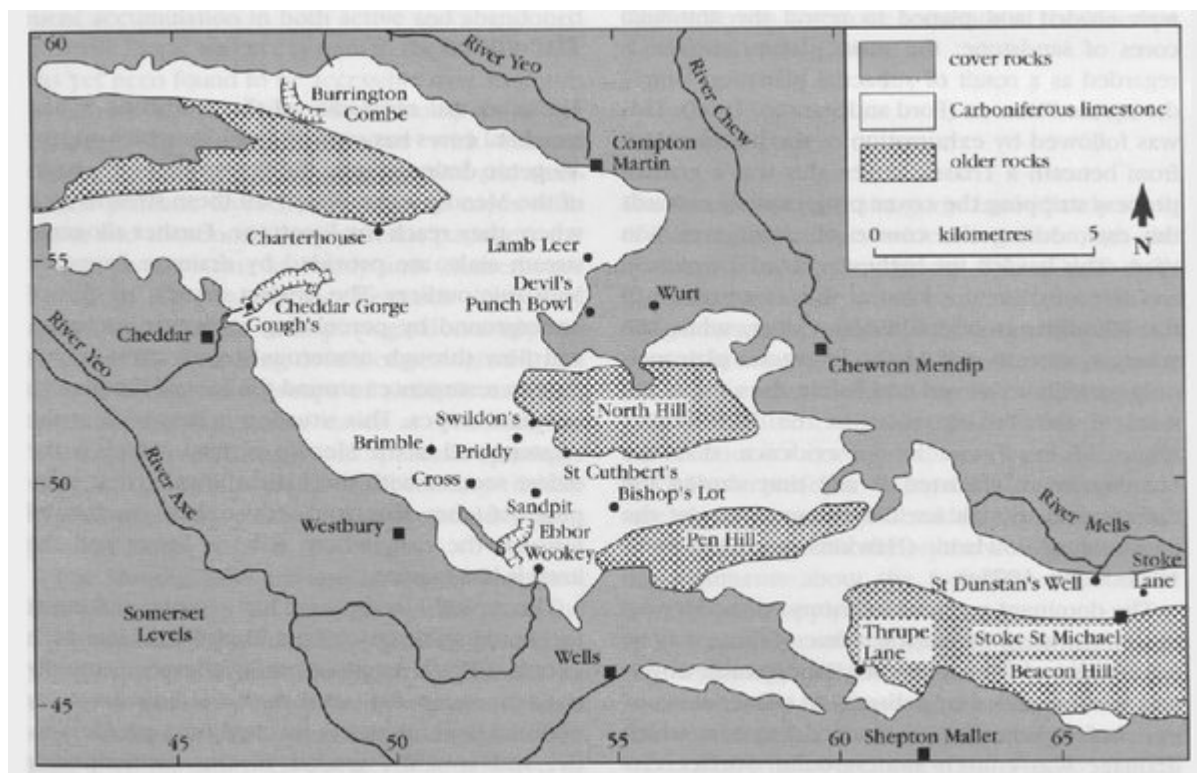
provide further information on this part of the anatomy of a Mendip karst drainage system.

Alternatively, Lamb Leer may have been fed by sinks developed on a formerly more extensive cover of Mesozoic rocks. Either scenario implies a considerable age for the system, perhaps extending back more than a million years to a time soon after the exhumation of the plateau from beneath the cover of Mesozoic strata. Investigation of the sediments and speleothems within the cave, including the aragonite flowstones, may confirm this, or at least establish a minimum age and sequence of development for the system. Such information would be extremely valuable in interpreting the geomorphological evolution of this area during the Pleistocene and earlier.

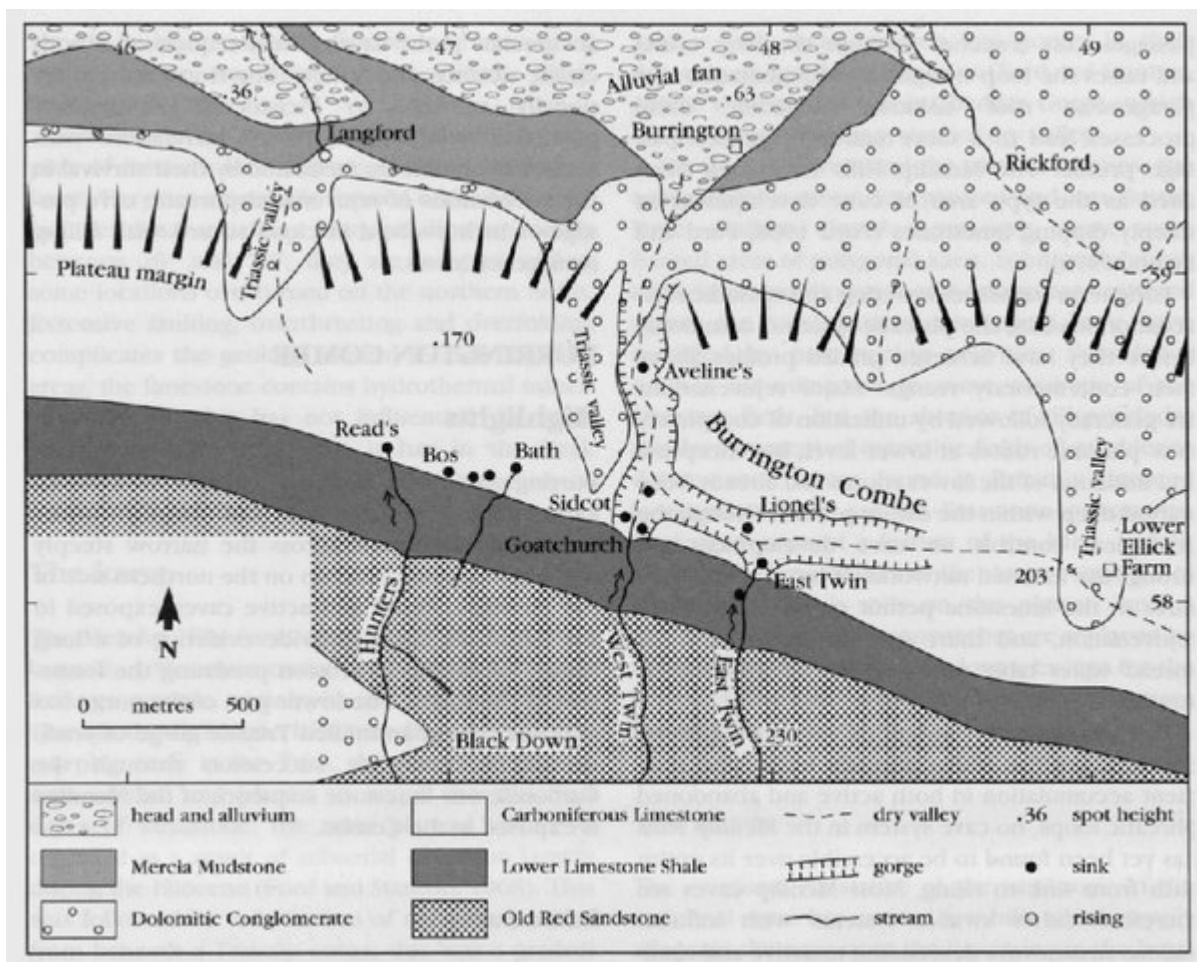
Conclusion

Lamb Leer Cavern is a fragment of an ancient phreatic system now isolated from present catchments as a result of surface lowering. It appears to be a relic from Tertiary drainage patterns, related to a higher plateau surface or a more extensive Mesozoic cover across the Carboniferous Limestone. The large, isolated chamber and the aragonite flowstone are two unusual features which make Lamb Leer so distinctive.

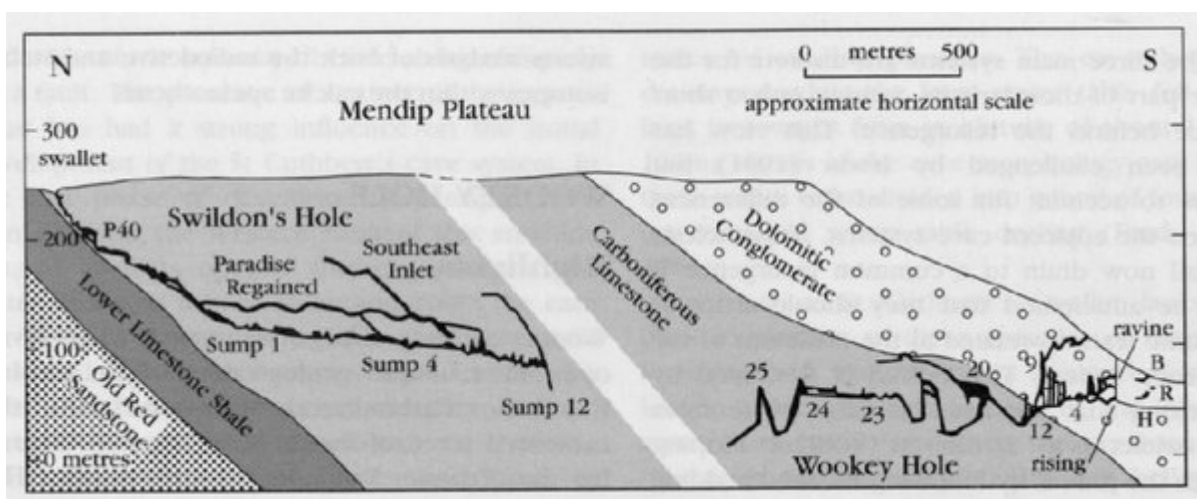
References



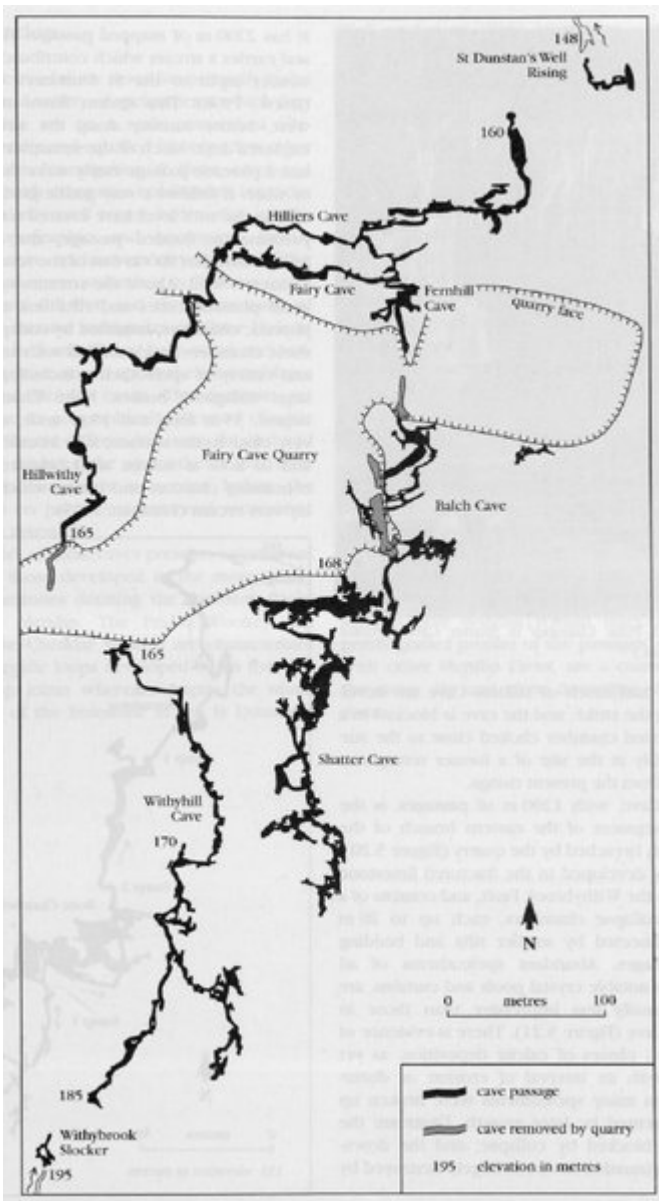
(Figure 5.1) Outline map of the Mendip Hills karst, with locations referred to in the text. Cover rocks are mostly the Triassic and Jurassic mudstones and limestones; Upper Carboniferous rocks form the thrust outlier on the east side of Ebbor Gorge. The Triassic Dolomitic Conglomerate is included with the Carboniferous limestone where it is composed of blocks of the limestone and is an integral part of the karst. Older rocks are the Devonian Old Red Sandstone and the Dinantian Lower Limestone Shale.



(Figure 5.2) Geological map of Burrington Combe and the infilled Triassic valleys cut into the northern slope of the Mendip Hills (after Williams and Farrant, 1992).



(Figure 5.15) Semi-extended profile through the cave system from Swildon's Hole to Wookey Hole. The gap in the middle has not yet been reached by underground explorations; the distance between the explored limits of the two caves is about 2.3 km, and the vertical scale is exaggerated by five. The small caves in the ravine are keyed as: B = Badger Hole; R = Rhinoceros Hole; H = Hyaena Den (after drawings by W.I. Stanton).



(Figure 5.20) Outline map of the cave systems revealed where the Fairy Cave Quarry cut into the limestone outcrop (from survey by Cerberus Caving Club).