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# Bosco's Den

## Highlights

A key site yielding a rich Late Pleistocene mammal fauna. This consists of typical cold stage (glacial) species with, in particular, a remarkable accumulation of deer antlers.

## Introduction

Bosco's Den [SS 559 868] is a large fissure cave containing fossiliferous deposits. The site was originally excavated in the mid-nineteenth century and it yielded prolific mammalian remains, which would appear to date from the Devensian Stage. Falconer (1868) concluded that "...On the whole, Bosco's Den of all the Gower Caves, furnishes the more complete succession of marine, brecciated and alluvial deposits disposed in a section of no less than 47 feet". The site was originally excavated by Wood in 1858 (see Falconer 1860, 1868), and was subsequently described by Prestwich (1892), Strahan (1907a), George (1933b, 1970), Allen and Rutter (1944, 1948), and Stringer and Currant (1981).

## Description and interpretation

Bosco's Den, once known as Bacon's Eye, and situated only 150m west of Bacon Hole, is on two levels. The lower, which is unfossiliferous, reaches 25 ft (7.6m) above the modern beach, and extends inwards for some 30 ft (9.1m); the upper reaches about 70 ft (21m) above the modern beach and penetrates the limestone cliff for about 75 ft (23m) (Allen and Rutter 1944, 1948). The dividing floor comprises a thick sequence of raised beach deposits overlain by a sequence of fossiliferous cave earth and head deposits.

The first excavations at Bosco's Den were carried out by Wood in 1858, and these were subsequently documented by Falconer (1860, 1868). Falconer recorded the following generalised sequence —

- 8 Sandy peat\*
- 7 Stalagmitic floor (<0.3m)
- 6 Sandy loam (0.4m)
- 5 Sand (0.7m)
- 4 Loose breccia (1.2m)
- 3 Cave earth (2.0m)
- 2 Cemented breccia\*
- 1 Raised marine sands and gravels\* (\* bed thicknesses not recorded)

Bones of ox, wolf and shed antlers of deer (species allied to the reindeer) were recovered from the sandy peat (bed 8), and the remains of cave bear *Ursus spelaeus* (Rosenminler & Heinroth), wolf *Canis lupus* L., fox *Vulpes vulpes* (L.), *Bos* sp., *Cervus* sp. and *Arvicola* sp. were recovered from the cave earth (bed 3). Falconer (1860) remarked that — "The most remarkable circumstance about these remains was the great excess of deers antlers above the others. Upwards of one thousand antlers, mostly shed and of young animals belonging chiefly to *Cervus guetardi* were collected."

Traces of marine sand and patches of cemented raised beach at Bosco's Den were also noted by Prestwich (1892), Strahan (1907a) and George (1933b). George (1933b) considered the raised marine deposits at Bosco's Den to be related to the *Patella* raised beach found elsewhere around the Gower coast. As such, it was considered to predate the

'Older Drift' glaciation of Gower, and its position beneath the cave deposits was used as evidence by George that the cave fauna was of considerable antiquity. He noted that the bones had accumulated *in situ*. Precise interpretations of the age and significance of the finds were not, however, forthcoming, although Strahan had noted that thermophilous taxa such as elephant, rhino, hyaena and cave lion were absent. Strahan emphasised that the precise stratigraphic context of many of Wood's and Falconer's finds was not clear.

Bosco's Den was later described in some detail by Allen and Rutter (1944, 1948) in their survey of the Gower caves, although no new finds were recorded. They noted that the cave was particularly significant for the considerable collection of antlers. Such an accumulation of a single species may be compared with caves at Kuhloch in Germany and San Ciro in Sicily where the remains of 2,500 cave bears and at least 2,000 hippopotamuses, respectively, had been found. (Allen and Rutter 1944, 1948).

Bosco's Den was cited by Stringer and Carrant (1981) as an example of a cave where abundant mammalian remains had been recovered, but where there was little evidence for hyaena, or human, activity to account for the accumulations. This, they considered discounted Turner's (1981a) suggestion that the presence and activity of hyaena were prerequisites for such large accumulations, although Turner (1981b) later stressed that it was possible for the bones to have accumulated by other means. The dating and palaeoenvironmental significance of the remains from Bosco's Den have not yet been established, but the fauna can probably be ascribed to the Devensian Stage. Hitherto, no species with distinct warm climate preferences have been recorded. The site is particularly significant in containing deposits that may provide a comprehensive fauna for comparison with the records from adjacent sites at Minchin Hole and Bacon Hole. Well developed interglacial marine sediments also occur.

Bosco's Den's sequence of raised marine deposits and terrestrial sediments are important for interpreting Late Pleistocene events in South Wales. Mammalian remains recovered during early excavations appear to form a 'cold' fauna probably dating from the Devensian Stage, although their precise stratigraphic context is debatable. The site is unusual in having yielded prolific remains of a single species, but their mode of accumulation has not been established.

## **Conclusions**

Bosco's Den contains marine and cave deposits which have yielded important mammalian fossil remains. Over a thousand deer antlers have been recovered from this site.

## **[References](#)**