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# Otterton Point (Budleigh Salterton), East Devon

[SY 0775 8196]

## Highlights

The Otter Sandstone Formation at Otterton Point is the source of a specimen of *Rhynchosaurus spenceri*, and offers potential for future finds of this important Mid Triassic reptile.

## Introduction

The fossil-bearing site lies in a cove on the east side of the mouth of the Otter River, just north of Otterton Point (Figure 4.7), accessible over fields from South Farm. The Otter Sandstone Formation here yielded the first find of *Rhynchosaurus* from Devon. The Otterton Point locality and coast section in general is probably much as it was 100 years ago, and fresh finds are likely.

A tooth plate of *Rhynchosaurus* (i.e. *R. spenceri*) was collected by William Whitaker from a 'brecciated horizon' in the lower part of the Otter Sandstone Formation exposed in a low cliff on the east bank of the Otter River. It was described as *Hyperodapedon* by Huxley (1869) and compared with the Elgin rhynchosaur. Lavis (1876) and Ussher (1876) made general comments on the sandstone at Otterton Point, and Metcalfe (1884) reported white fragments in the harder beds of the sandstones 'at numerous points near Budleigh Salterton and Otterton Point', which were identified by him as fragmented bone. Irving (1888, 1892, 1893) and Hull (1892) further described the stratigraphy and structure of this section. Subsequent palaeontological and sedimentological work is outlined in the account of the Sidmouth section (see above).

## Description

At Otterton Point hard, calcite-cemented, cross-bedded sandstone units (less than 0.5 m thick) in the Otter Sandstone Formation contain calcite-cemented rhizoliths, up to 1 m deep, and other calcrete formations (Mader, 1990; Purvis and Wright, 1991). Purvis and Wright (1991) attributed the large vertical rhizoliths to deep-rooted phreatophytic plants which colonized bars and abandoned channels on a large braidplain. The sedimentology of the Otter Sandstone Formation is more fully described in the Sidmouth account (see above).

These phenomena were noted by earlier authors. Whitaker (1869) commented that 'on the left bank of the Otter [the sandstone] has, in parts a brecciated character'. Lavis (1876) noted that the sandstones at Otterton Point 'contain curious irregular branching-shaped masses of harder texture, which withstand the weathering and give the cliff a rugged aspect' and he observed that these hard masses allowed the sandstone to resist erosion and form promontories into the sea. Ussher (1876, p. 380) observed that the sandstones here 'contain two or three conglomerate beds, and a few pebbles in false-bedded lines'. Metcalfe (1884, pp. 259–60) described these hard masses as calcareous concretions produced from the eroding debris of Devonian limestone. Irving (1888, p. 153) described 'an irregular band of breccia... intercalated with the sandstones, just above high-water mark', and containing fragments of slate, granite, sandstone and quartzite. Woodward and Ussher (1911, pp. 10–11) traced this 'brecciated horizon' as far as Ladram Bay, 3.5 km to the north-east of Otterton Point.

## Fauna

Archosauromorpha: Rhynchosauridae

*Rhynchosaurus spenceri* Benton, 1990 maxillary tooth-plate BGS(GSM)

## Interpretation

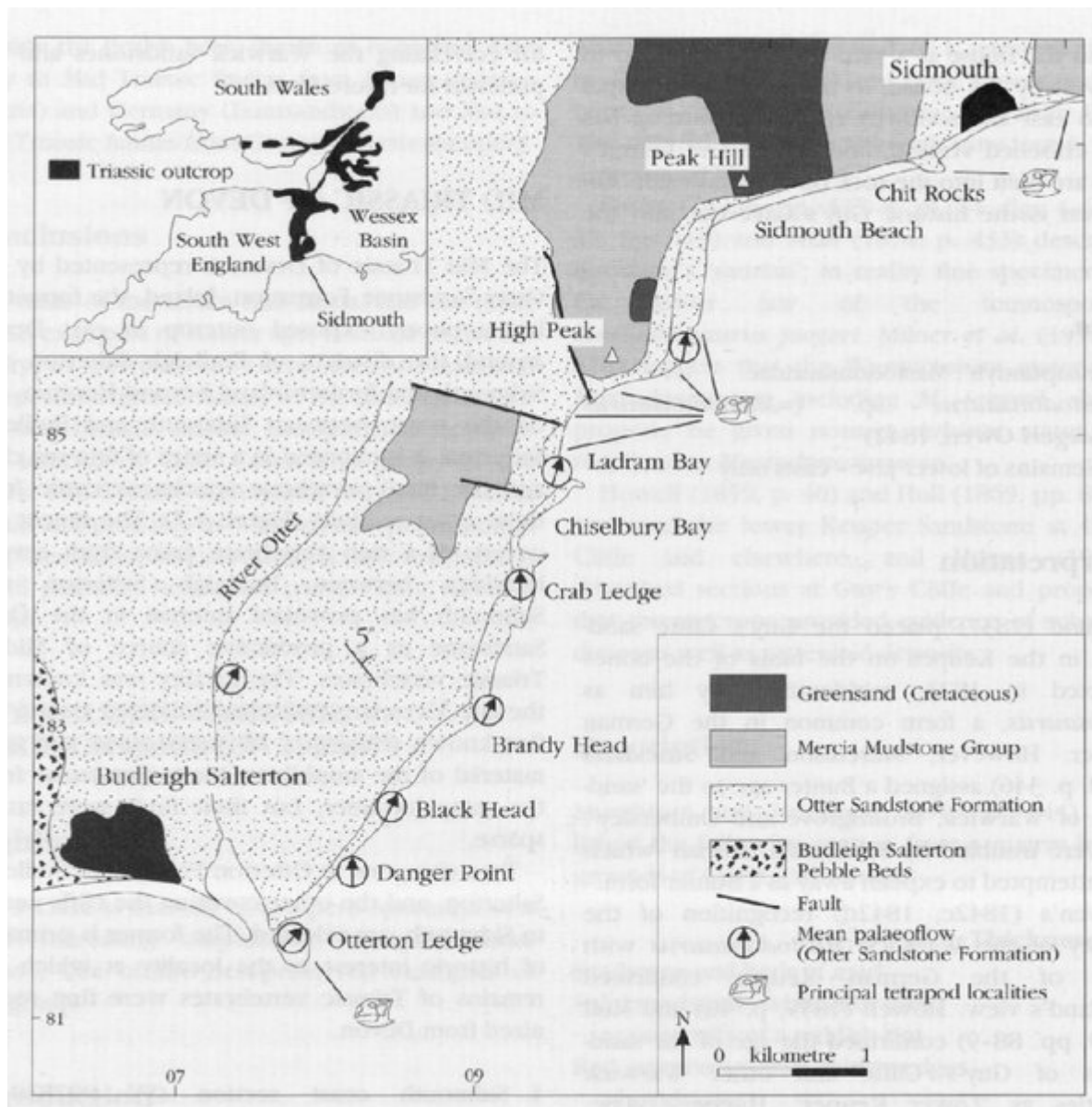
The original find of a *Rhynchosaurus* jaw from Otterton Point appears to have come from the zone of breccia and calcite-cemented nodules which occurs along the base of the cliff eastwards for 2 km towards Ladram Bay. The same beds occur in isolated exposures for about 1 km up the Otter River and in a small outcrop at the east end of the esplanade in Budleigh Salterton, but further remains of *R. spenceri* have not been recovered from any of these localities. Professor R.J.G. Savage of Bristol University washed and sieved loose matrix from some of these exposures along the Otter River and obtained numerous remains of fish, including isolated teeth, scales and spines, and a thecodont tooth fragment (pers. com. to P.S.S., 1983).

## Comparison with other localities (see the account of the Sidmouth site)

## Conclusions

Otterton Point yielded the first evidence of Mid Triassic reptiles from Devon, and formed a useful point of comparison with localities elsewhere in England, especially with the larger Sidmouth section. The importance of past finds and the potential for new ones gives the site its conservation value.

## References



*(Figure 4.7) Map of the coastal outcrop of the Otter Sandstone Formation between Sidmouth and Budleigh Salterton, Devon. The major Triassic formations are indicated, together with mean fluvial palaeoflow directions, and principal tetrapod localities. From Benton et al. (1993).*