

The Helsby (formerly Warwick) Sandstone SSSI at Guys Cliffe

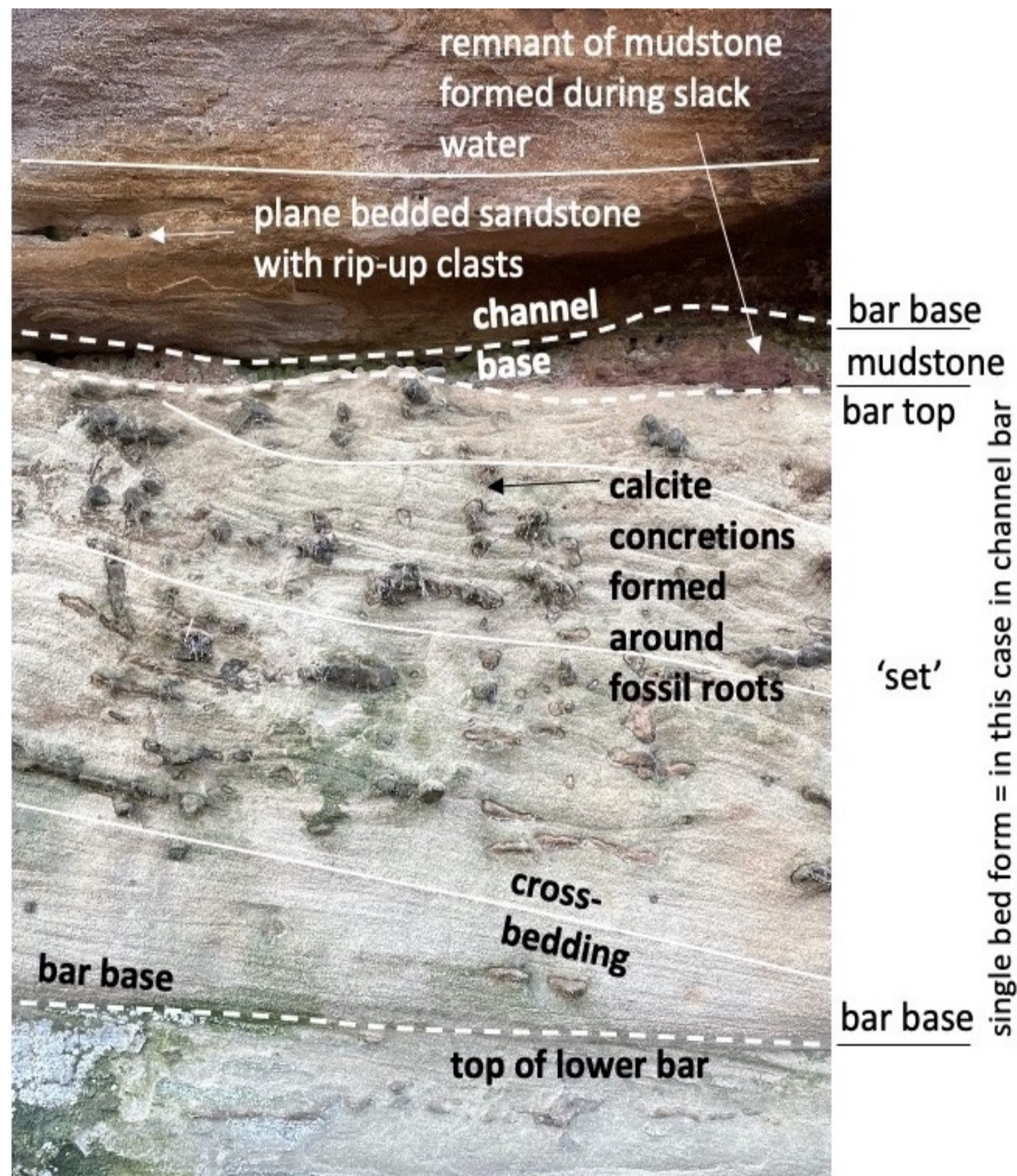
Guys Cliffe is designated a Site of Special Scientific Interest (SSSI) under Section 28 of the Wildlife and Countryside Act of 1981 because the spectacular rock exposures on which Guys Cliffe House is built contained rare fossils of an important Triassic amphibian, *Mastodonsaurus*.



Guys Cliffe House



The rocks at Guys Cliffe are sandstones with thin mudstone interbeds of Middle Triassic age (245 million years old). They were deposited by rivers flowing from the south of England and record the deposits of multiple flood events, similar to the braided rivers flowing from modern mountain ranges.



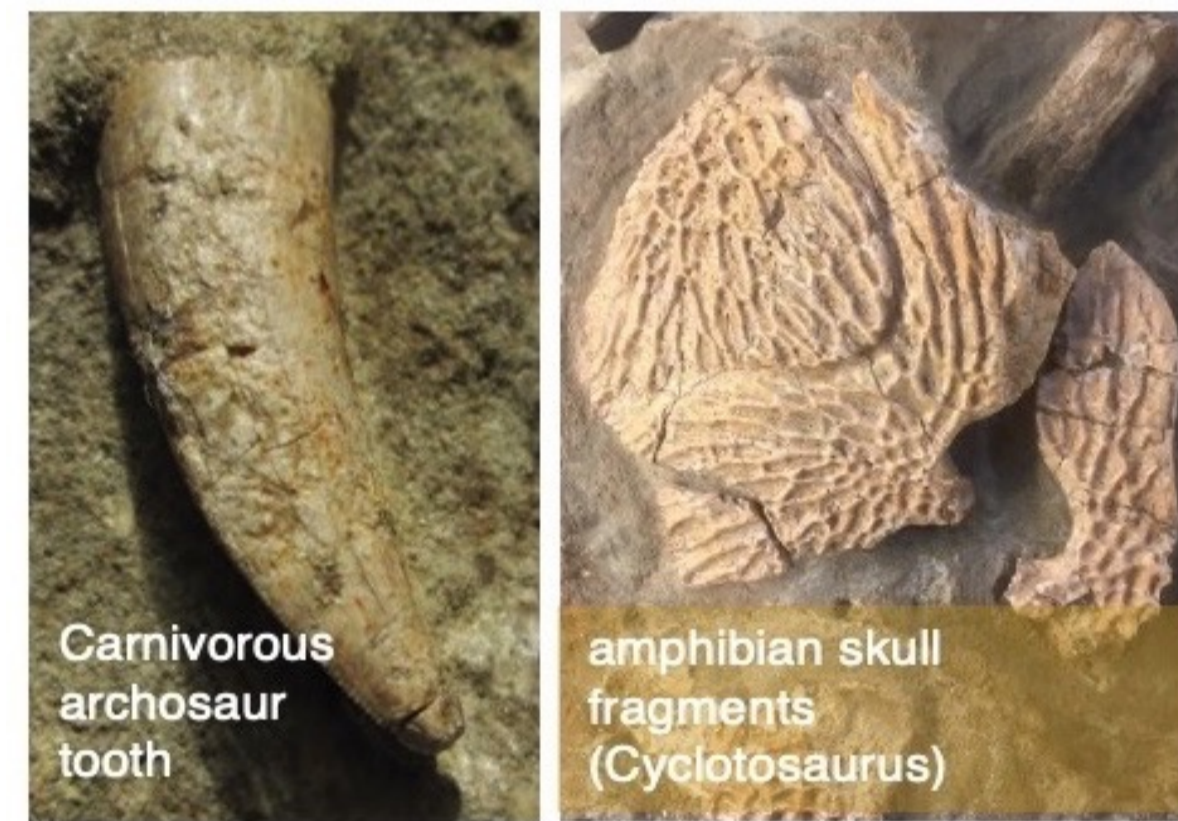
The cliff records a sequence of stacked river deposits in the Helsby Sandstone, formerly known as the Warwick Sandstone. The sub-horizontal surfaces in the cliff face are the boundaries between successive flood events. Red mudstones are the remnants of slack water deposition.

Some of the sand bars were vegetated. Hard calcite nodules formed around plant roots, which are vertical because the water tables were low. Some nodules were transported by the next river flood and now occur as pebbly lags at the base of the channels. The inclined surfaces are cross-beds which reveal the direction of river flow. Higher ground was to the south and the rivers flowed north.



The name *Mastodonsaurus* means 'breast tooth lizard' on account of the prominent front teeth. It is actually a large, heavily built, fish-eating, crocodile-like amphibian which attained lengths of around 2 metres. The specimen at Guys Cliffe was an almost complete lower jaw, the original of which is now lost and only casts remain.

Radley, J.D. & Coram, R.A. 2018. The Warwick Sandstone: a window onto Middle Triassic life and landscapes. *Geology Today*, 34, 230-235.



The rocks at Guys Cliffe and at nearby Coten End Quarry on the other side of the River Avon are famous because terrestrial and aquatic reptiles and amphibians, freshwater fish, dragon flies and horsetail plant remains have been found in these rocks. These finds enable geologists to date the rocks and reconstruct a scene at the time of deposition.