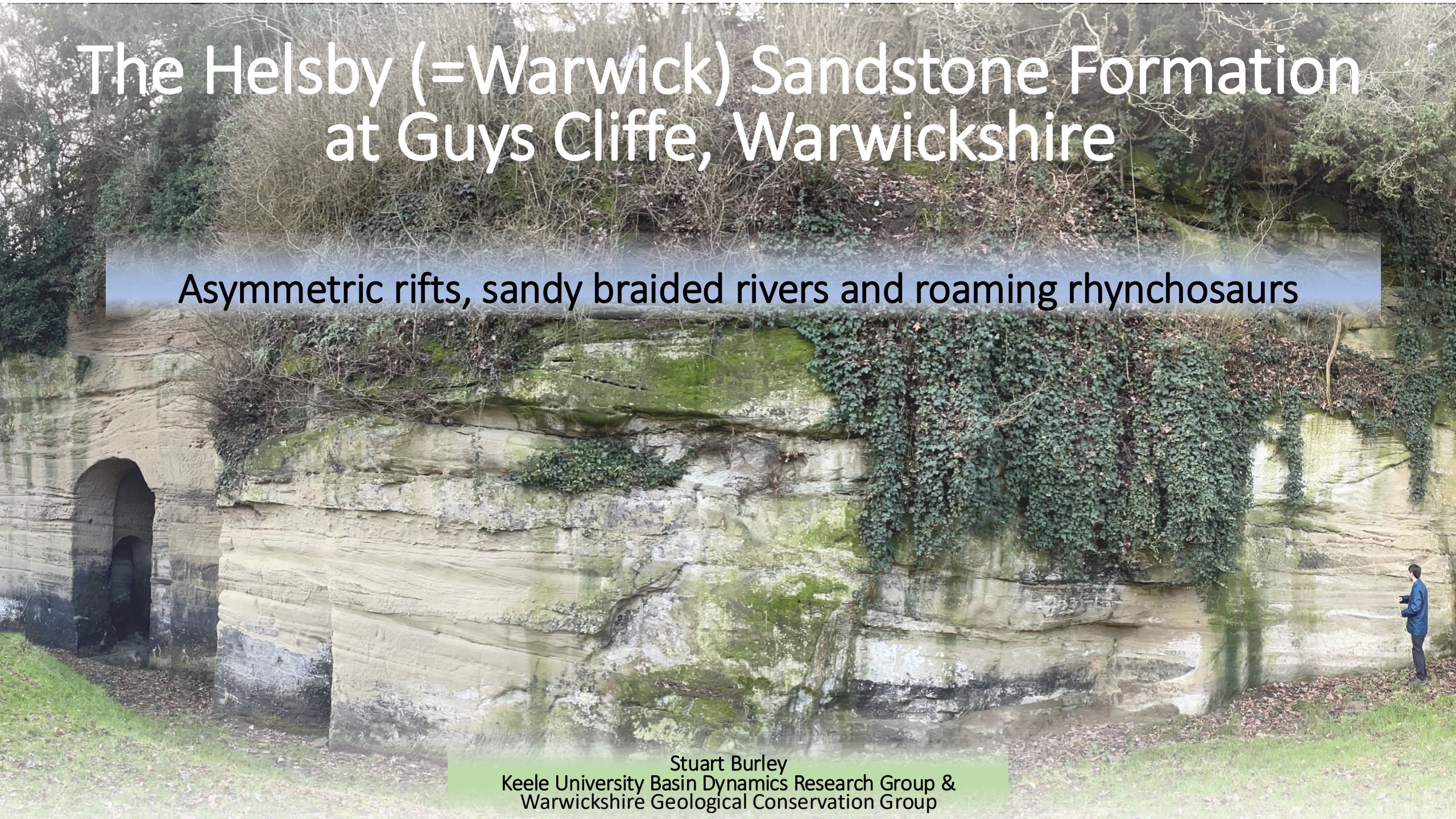


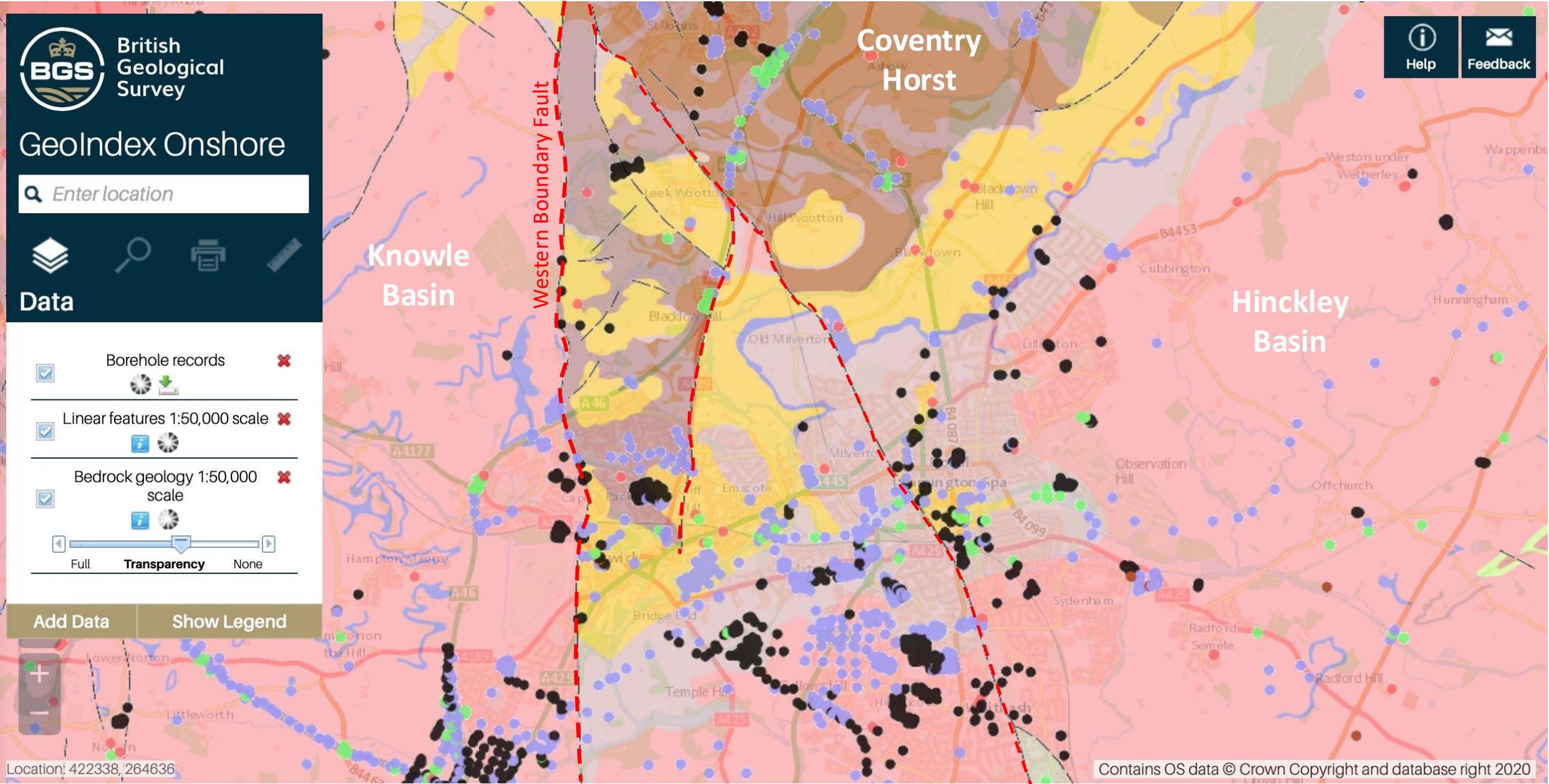
# The Helsby (=Warwick) Sandstone Formation at Guys Cliffe, Warwickshire

Asymmetric rifts, sandy braided rivers and roaming rhynchosaur



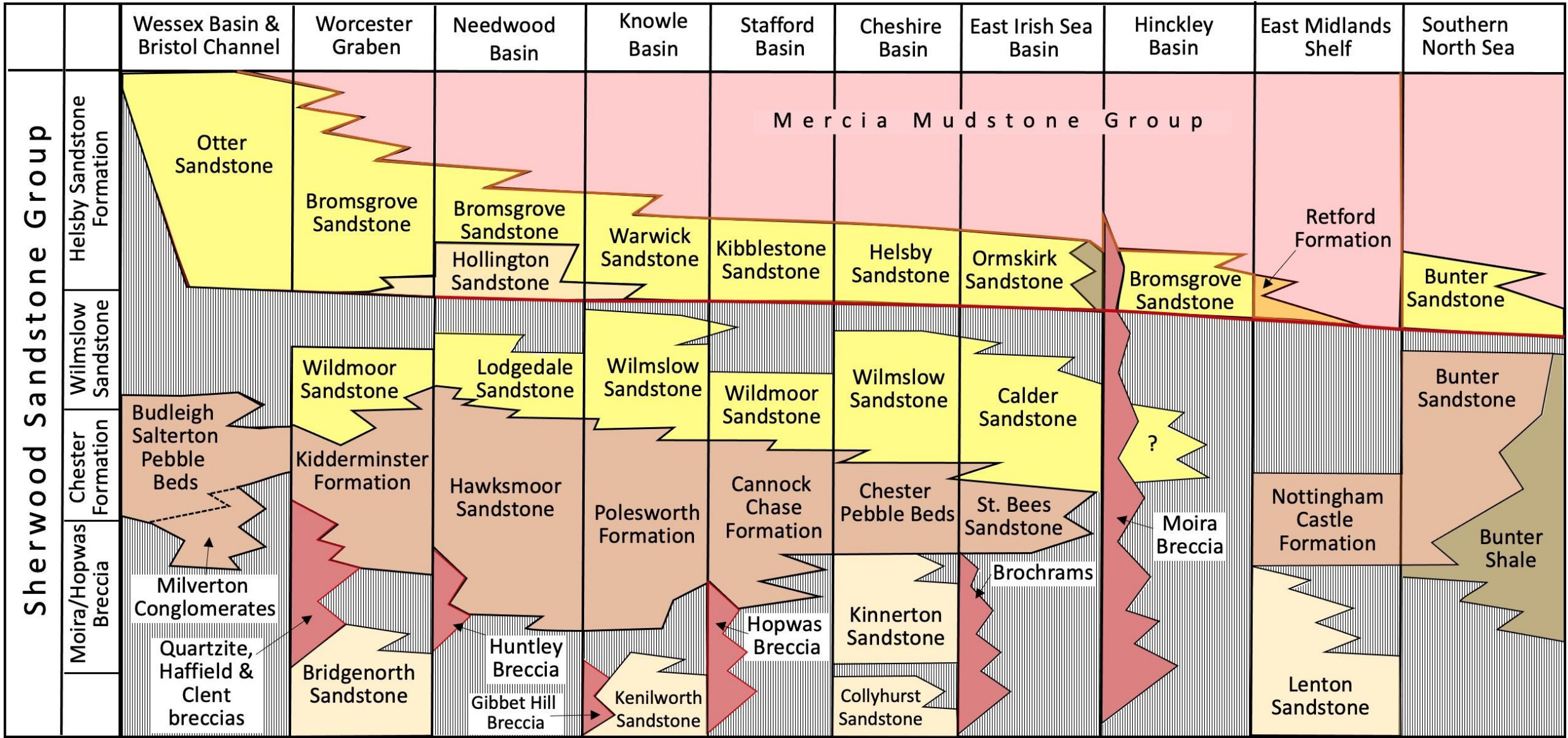
Stuart Burley  
Keele University Basin Dynamics Research Group &  
Warwickshire Geological Conservation Group

# The 'Keuper Sandstone' – Warwick or Bromsgrove in Warks – now the Helsby Formation



Warwick Sandstone is ~40m thick in the Warwick area but >250m around Bromsgrove. Why? Condensed or eroded?

# Sherwood Sandstone Group stratigraphy – Warwick or Bromsgrove in Warks – now the Helsby Formation



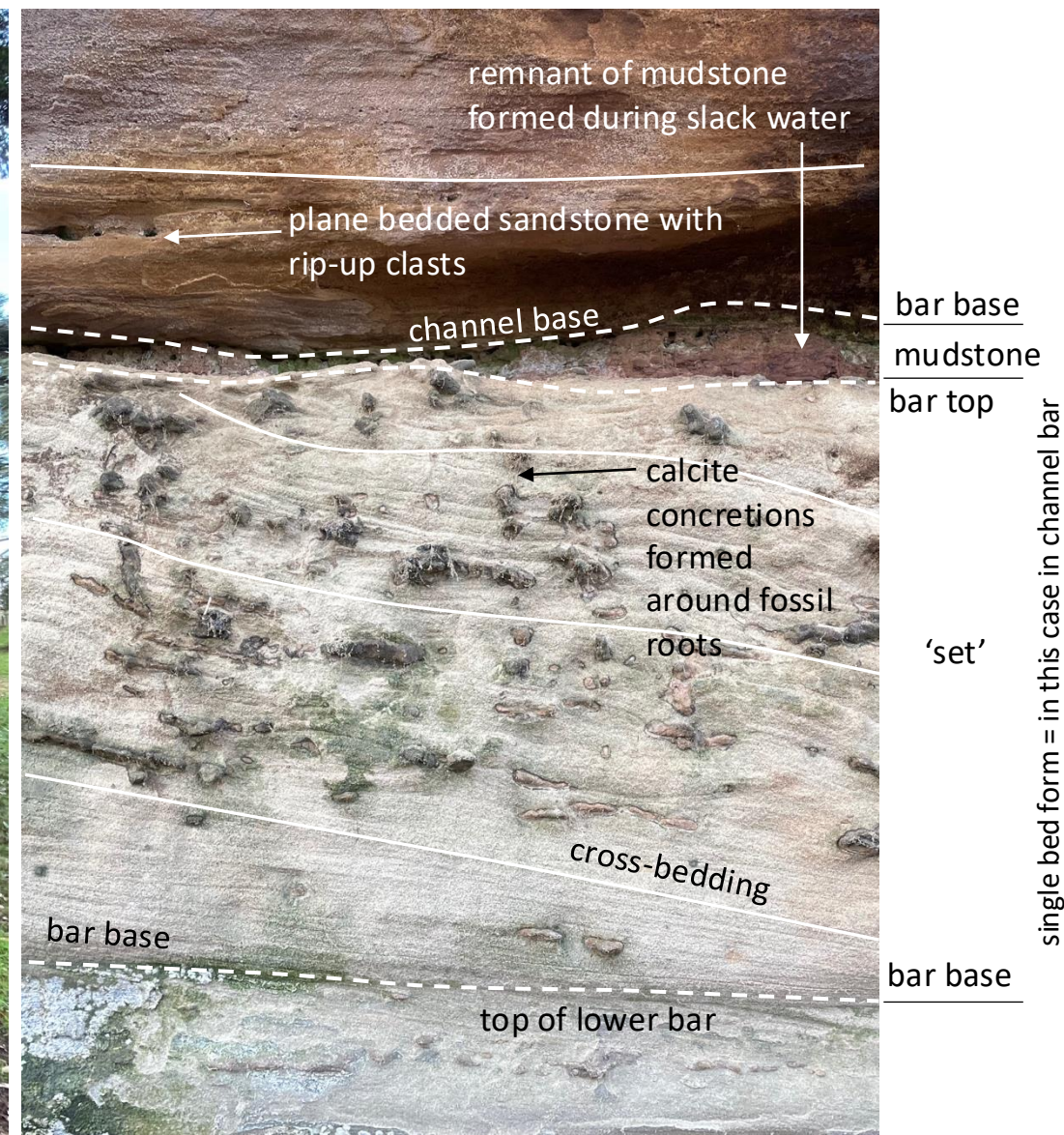
# The 'Keuper Sandstone' – Warwick or Bromsgrove in Warks – now the Helsby Formation – sandy braided rivers

Stacked, pebbly sandstones, sub-planar set surfaces, cross-bedded sandstones



# The 'Keuper Sandstone' – Warwick or Bromsgrove in Warks – now the Helsby Formation – sandy braided rivers

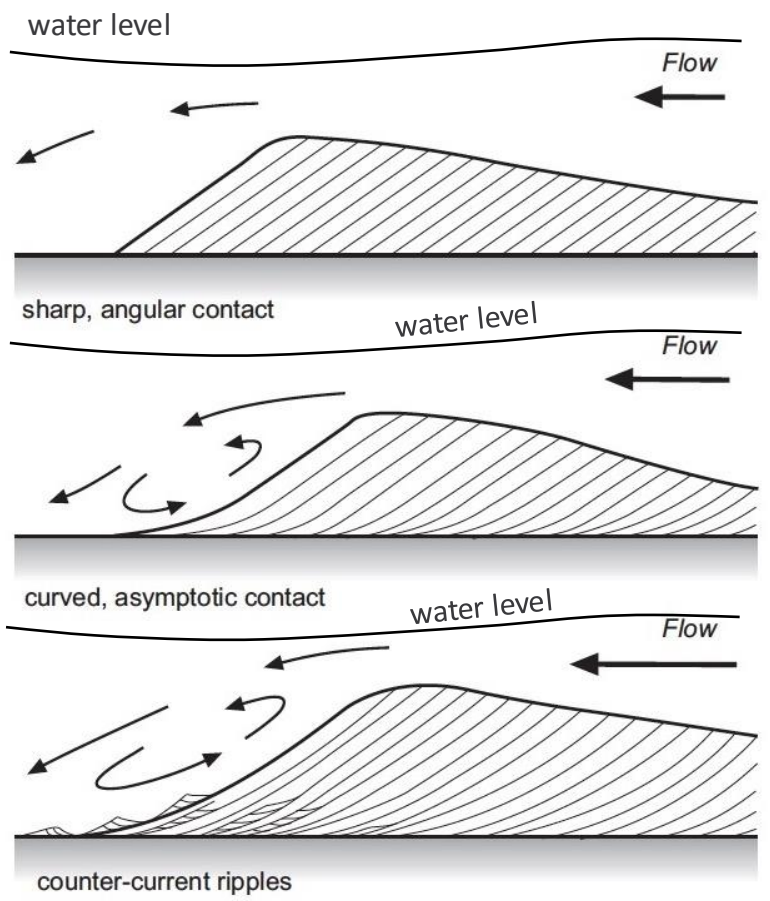
Stacked, pebbly sandstones, sub-planar set surfaces, cross-bedded sandstones



Sequence sandstone dominated, typically <10% siltstones and red coloured mudstones  
Vertical calcite concretions formed around shrub or tree roots, vertical because water tables were low; some transported

# The Helsby Formation – sandy braided rivers modern analogue, western Canada

Season fluvial discharge in confined sandy rivers – bars migrate during flood, are exposed during falling stage and dry periods



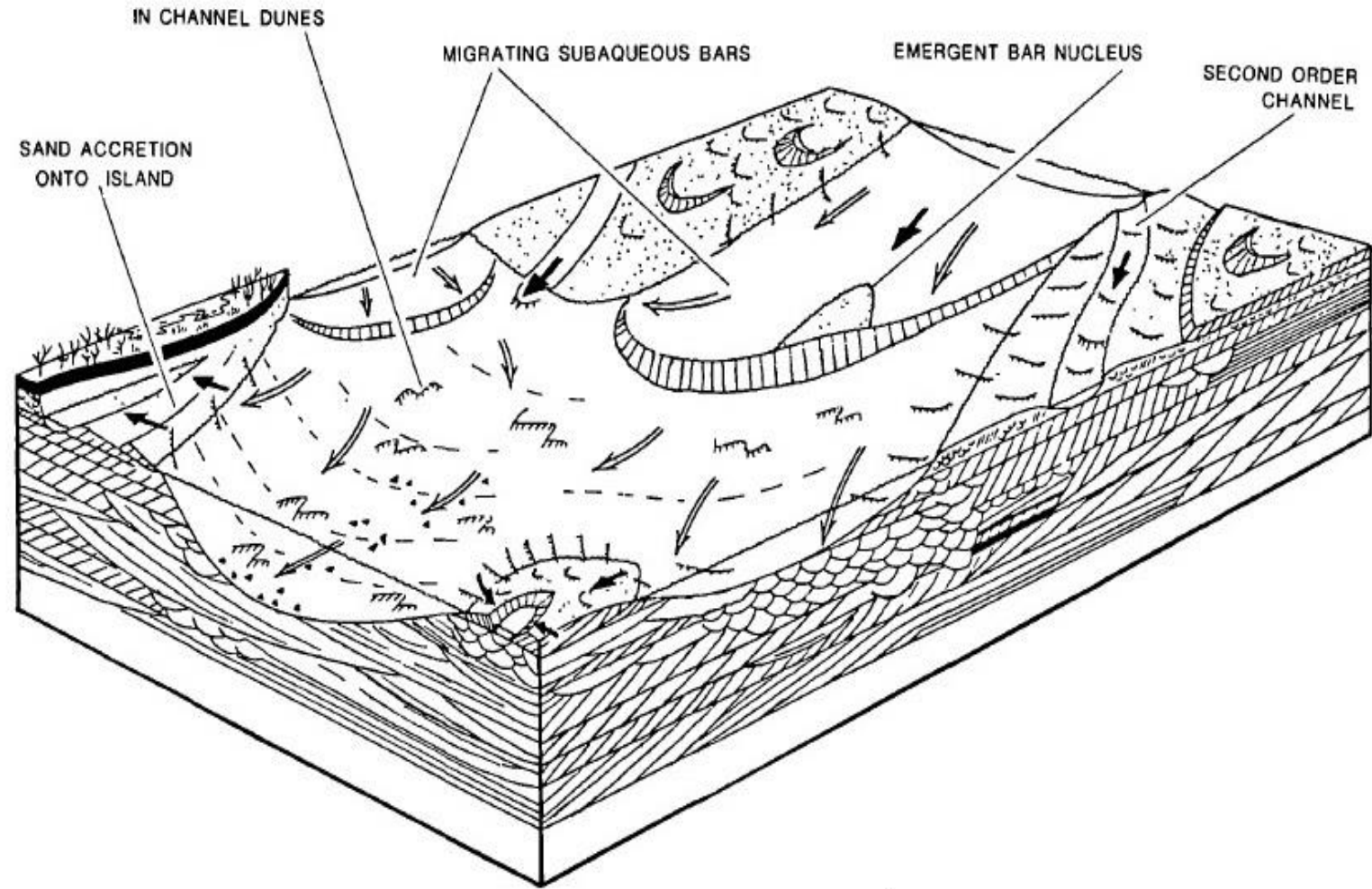
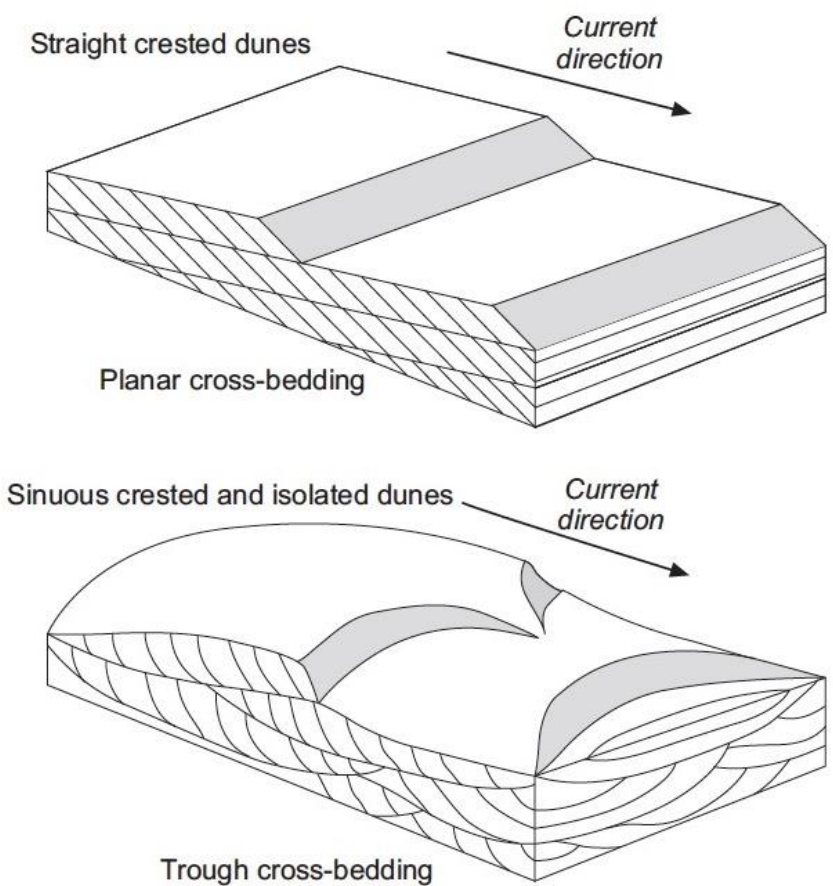
in-channel bar migration



These sandy rivers only appear 'braided' during falling or low stage of flow – they are better called 'low-sinuosity'

**The 'Keuper Sandstone' – Warwick or Bromsgrove in Warks – now the Helsby Formation – sandy braided rivers**

Season fluvial discharge in confined sandy rivers – bars migrate during flood, are exposed during falling stage and dry periods



the shape of cross-bedding depends on the geometry of the bed form

**FIG. 2.5.25. LOCAL SEDIMENTOLOGICAL MODEL FOR LOW SINUOSITY SANDY BRADED ALLUVIUM OF THE DISTAL SHERWOOD SANDSTONE (concept based on Cant and Walker, 1978)**

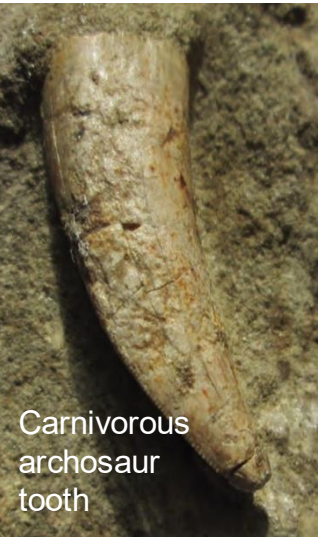
First order bars are modified during falling and low flow stages – cut by second order bars, smaller bars migrate laterally

# The 'Keuper Sandstone' – Warwick or Bromsgrove in Warks – well documented fossil assemblage

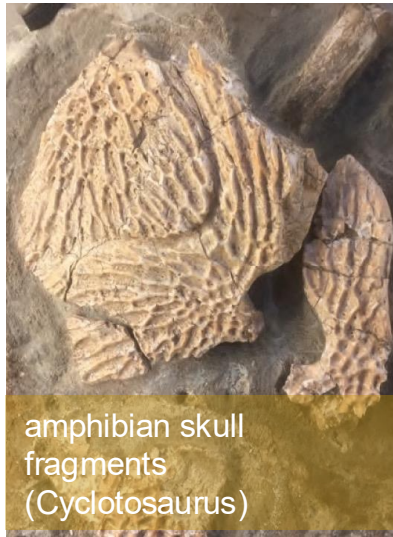
Mixed terrestrial–aquatic fauna of reptiles and amphibians, with freshwater fish and some horsetail plant remains from Warks



Rhynchosaur (*Langeronyx brodiei*) anterior skull from Coten End Quarry



Carnivorous archosaur tooth



amphibian skull fragments (*Cyclotosaurus*)



'The Langeronyx are on the move' by Bob Nicholls – herd of Triassic Rhynchosaur

Always disarticulated, the vertebrate remains show little sign of abrasion, and where broken, the breaks are quite clean

## Guys Cliffe House



Guy's Cliffe site has been noted since Saxon times and derives its name from the legendary Guy of Warwick, the English hero of Romance popular in England and from the 13th to 17th centuries. Guy is supposed to have retired to a hermitage on this site, this legend led to the founding of a chantry. The chantry was established in 1423 as the Chapel of St Mary Magdelene and the rock-carved stables and storehouses still remain at the cliff. After the Dissolution of the Monasteries by Henry VIII the site passed into private hands.

The current ruined house dates from 1751 and was built by Samuel Greatheed, a merchant and Member of Parliament for Coventry 1747-1761. The house was used as a hospital during World War I and in World War II became a school for evacuated children.

Guy's Cliffe estate was broken-up and sold in 1947. In 1952 the mill became a pub and restaurant and was named The Saxon Mill, the stables became a riding school, the kitchen garden became a nursery, all of which still exist today. A toll house also stood by the road to the north of the Saxon Mill, but this was demolished in the mid 20th century.

The new owner of the house intended to convert it into a hotel, but these plans came to nothing and the house fell into disrepair. In 1955, the house was purchased by Aldwyn Porter and the chapel leased to the Freemasons, establishing a connection with the Masons that remains today. The roof had fallen in by 1966. In 1982, during the filming of *The Adventures of Sherlock Holmes (The Last Vampyre)* a fire scene got out of control and seriously damaged the building. English Heritage has given the building grade II listed status.

