



Permian - Triassic Reptilia (PER-TRI-RP)

Block Description

Visit <https://jncc.gov.uk/gcr-site-list>, for more information on GCR blocks and sites
For Palaeontology GCR block descriptions and GCR site lists,
visit <https://jncc.gov.uk/gcr-blocks-palaeontology>

Introduction

In contrast to the manner in which most invertebrate fossils are represented in the GCR, fossils of vertebrates, arthropods (except trilobites) and terrestrial plants do have their own dedicated GCR Blocks, because of the relative rarity of the fossil material. The GCR sites selected for the Permian –Triassic Reptilia GCR Block represent the British fossil record of terrestrial and aquatic reptiles of the last period of the Palaeozoic Era (the Permian Period, spanning from 280 to 230 million years ago (Ma), and the first period of the Mesozoic Era (the Triassic Period, from 230 to 195Ma), effectively charting the early evolution of the group from its emergence as represented by the record in Britain. At the end of the Permian Period there was a major, global mass-extinction event, and this had a significant effect on the faunas of the time, with approximately 95% of species becoming extinct. After the pre-dinosaurian faunas of the Triassic, the Jurassic-Cretaceous time is marked by the emergence and rise of the dinosaurs, thus enabling this 'unit' of the fossil record to have a developing, but characteristic, faunal distinctiveness.

Later fossil reptiles are afforded their own GCR Blocks, 'Jurassic-Cretaceous Reptilia' and 'Tertiary Reptilia'. **See Jurassic - Cretaceous Reptilia (JUR-CRE-RP) and Tertiary Reptilia (TER-REP).**

Palaeontological characteristics

The reptiles evolved from their amphibian forebears over 300 million years ago. The oldest postulated fossil reptile is known from the Carboniferous of Scotland. Reptiles radiated extensively during the Permian Period and the Mesozoic Era, a span of time often referred to as the 'Age of Reptiles'. Britain's fossil reptile sites include key Triassic sites that document the pre-dinosaur times, and the unique dinosaurian faunas of Mid Jurassic and Early Cretaceous age. Marine reptiles (plesiosaurs, ichthyosaurs, crocodylians) are richly represented in the Early and Late Jurassic in particular. A number of Tertiary localities have yielded rich faunas of turtles, crocodylians and squamates.

Palaeogeography

The palaeogeography of each relevant geological age of Permian and Triassic periods can be found elsewhere on the pages of this website. **See PER–TRI and Rhaetian (RTN).**

GCR site selection

Owing to the rarity of fossil reptile material, this GCR Block represents something of a special case with regard to including all of the sites yielding, or that have yielded, significant types and quantities of scientifically important material that help elucidate the evolution, diversification and extinction of the main reptile groups.

The sites selected for this Block aim to represent distinct reptile assemblages showing diversification and extinction associated with the Permian and Triassic periods.