



Mesozoic Palaeobotany (MES-PALBOT)

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 Mesozoic Palaeobotany GCR Block represent the British fossil record of vascular land plants during the Mesozoic Era (which spanned from 230 to 65 million years ago (Ma)). This was a time of major evolution and diversification of plants following a major mass extinction event that occurred at the end of the Permian Period (=end of Palaeozoic Era). Earlier fossil plants are afforded their own GCR Block, 'Palaeozoic Palaeobotany'. **See Palaeozoic Palaeobotany (PAZ-PALBOT)**; later plants are covered by the 'Tertiary Palaeobotany' GCR Block.

Palaeontological characteristics

From the earliest inter-tidal vegetation of the Silurian Period (425 million years ago), plants progressively became established on land, and eventually developed into the lush tropical wetland forests of the Late Carboniferous Period (300 million years ago).

The end of the Palaeozoic Era (c. 250 million years ago) was a time of major change in land vegetation when traumatic environmental events caused rapid extinction of many plant groups. However, a few groups survived through into the Mesozoic Era and from these the gradual development of modern vegetation can be traced through the fossil record. The emptying of the many ecological niches provided an opportunity for more advanced groups such as cycads and conifers to radiate in the Mesozoic Era, and marked the start of the development of a modern-style of vegetation. During the early part of the Mesozoic Era, many families of living ferns and gymnosperms appear and, in late Mesozoic times, the first evidence of flowering plants can be found. By the following Tertiary sub-Era, much of the vegetation was dominated by flowering plants like those of the present day.

Britain has a particularly fine palaeobotanical record for mid-Jurassic (e.g. the Yorkshire coast) and early Cretaceous (Sussex coast) deposits and there are many sites internationally important for floras of these ages.

Palaeogeography

The fossil plant material has been useful in palaeoclimatic and palaeoenvironmental reconstructions as an indicator of the geological past. The palaeogeography of each relevant geological period since the earliest terrestrial vegetation of the Mesozoic Era can be found elsewhere on the pages of this website. **See Aalenian - Bajocian (AAL-BAJ), Aalenian - Bajocian (AAL-BAJ) Aptian-Albian (APT-ALB), Bathonian (BAT), Berriasian, Valanginian, Hauterivian, Barremian (BER-BAR), Cenomanian, Turonian, Senonian, Maastrichtian (CEN-MAA), Callovian (CLV), Hettangian, Sinemurian and Pliensbachian (HET-PBN), Kimmeridgian (KIM), Oxfordian (OXF) Portlandian - Berriasian (PTL-BER) Permian - Triassic (PER-TRI) Rhaetian (RTN).**

GCR site selection

Owing to the rarity of fossil plant 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 of the main plant groups.

The sites can be allocated to 5 GCR networks based on distinct plant assemblages associated with different time intervals and/or palaeoenvironmental settings as follows:

- British Triassic palaeobotany
- Jurassic palaeobotany of Yorkshire

- Jurassic palaeobotany of southern England
- Jurassic palaeobotany of Scotland
- British Cretaceous palaeobotany