



East Midlands Geological Society

60th Anniversary 1964-2024

Field Trips 2024



Sunday 11th August 2024, 10-30am - 3.00pm approx.

*PRECAMBRIAN OUTCROPS AT BRADGATE PARK,
CHARNWOOD FOREST, LEICESTERSHIRE*

Leader: John Carney



Old John Tower, with steeply-dipping and cleaved strata of the Charnian Supergroup (Beacon Hill Formation) in the foreground. Image: [Wikipedia](#)

For booking instructions see our website at

www.emgs.org.uk/#fieldtrips

SUMMARY:

Bradgate Park lies within Charnwood Forest, which is one of the few localities in England exposing 'basement' rocks dating back to Precambrian time. Its rugged topography is unique to the East Midlands and actually part of a 'fossil' mountainland, initially carved by Permo-Triassic erosion but currently undergoing exhumation from beneath an unconformable cover of Mercia Mudstone, which can also be viewed on the walk. About 560-570 million years ago the region formed an active island arc, much like today's Caribbean system, but the rocks exposed here are part of a volcanoclastic succession, the Charnian Supergroup, deposited in seas at some distance from the volcanic centres. Sedimentary structures such as grading, loading and spectacular slump-induced disruption of bedding suggest processes involving the transport of detritus in turbidity currents, some of which may have been triggered by earthquakes. Marine environments are indicated by the assemblage of Precambrian fossils that will be viewed at a nationally important SSSI, towards the end of the walk. The effects of mild metamorphism and folding produced the prominent Charnian cleavage but this occurred much later, during final closure of the Iapetus Ocean in Silurian times. Away from the geology we should encounter herds of red and fallow deer, and we will pass by the ruins of Bradgate House, the childhood home of the tragic Lady Jane Grey.

The field trip is suitable for both amateur and experienced geologists.