

FGS field trip to Herefordshire and the Forest of Dean - May 2003

On Friday evening the 30th May, 28 people from three societies met at the Three Counties Hotel in Hereford for the start of a two day trip lead by Paul Olver. There were 15 members from the Farnham Society, 9 from Horsham and 4 from Hereford including Paul and Sue Olver.

After dinner on Friday, Paul sketched out the palaeogeography of the Silurian outcrops in Herefordshire which occur in a large area to the west of Ludlow; and in a narrow belt to the north and south west of Ludlow embracing Wenlock Edge down to Aymestry – which gives its name to a division of the Silurian rocks of the Ludlow Series. In addition to these outcrops there are significant inliers of Silurian limestone in sites to the east of Hereford, and in particular, the Woolhope Inlier. Although this visit was concerned with Silurian rocks, it must of course be remembered that the largest area of the county is resting on the Old Red Sandstone which gives the soil its characteristic reddish-brown coloration.

On Saturday morning, by minibus and cars, we travelled east from Hereford with the intention of visiting a small quarry at Perton at the northern edge of the Woolhope Inlier. Unfortunately the owner



wouldn't allow us to enter the quarry because of safety reasons. The quarry is in the Aymestry Limestone whose rocks were deposited in a warm shallow sea near the eastern margin of the Iapetus Ocean. This area then lay at a latitude of about 15° South and a diverse brachiopod fauna dominated the seabed. Whilst the Silurian limestones were being laid down in the coral

reefs bordering the Iapetus Ocean there was considerable volcanic activity in the area to the south-west and the ash fall led to the formation of bentonite clays. (Fuller's Earth) These clays are responsible for a series of landslips such as the dramatic Wonder Landslip at the eastern edge of the Woolhope Inliers. Further out into the ocean, subsiding basin areas were evolving and into these basins, turbiditic flows were taking place.

The present day scenery reflects the two distinct types of Silurian deposition: the deep ocean basinal deposits give rise to the bold rounded hills in the north of Herefordshire: and the limestones of the "shelf areas" give rise to conspicuous, well wooded scarp and dip slope features such as those at Wenlock Edge, Aymestry and Woolhope.

After the abortive visit to Perton Quarry there was an unscheduled visit to the Southern Malvern Hills to visit the well-known geological unconformity in Gullet Quarry ([see photo](#)) where the oldest series of Silurian rock, the Llandovery, rest unconformably against the Pre-Cambrian of the Malverns. For many people this was a re-visit to this location.

A long drive in glorious sunshine through the beautiful Herefordshire countryside took us to the main Silurian outcrops round Ludlow. This charming town is situated on the northeastern rim of a plunging anticline in the core of which lies the Vale of Wigmore. Wigmore Basin ([see photo](#)) during the Devensian Glaciation 20,000 years ago was filled with ice but as the glacial phase waned water poured into the basin but was blocked to the south by a continuing ice barrier near Aymestry. The meltwater rose until it catastrophically broke through a gorge at Downton and features of this can be seen



in the present landscape. The course of the River Teme was completely changed which accounts for its sudden turn to the north before flowing through Ludlow and then south again.

Also in this area west of Ludlow is another much visited spot, the Mortimer Forest Geological Trail, managed by the Nature Conservancy Council. During Silurian times Ludlow lay at the edge of a shallow water marine shelf. As one follows the geological trail eastwards towards Ludlow the strata becomes progressively younger from the Wenlock Series to the Ludlow Series. At one of the stops on the trail there is an abundance of trilobite parts, the search for which occupied many people for half an hour or so. Another location provided an opportunity to examine the Aymestry Limestone which we didn't see at Perton quarry. Paul Davis produced a specimen of Fuller's Earth from this location, which had been the reason why the first quarry visited had been unsafe because of rock slippage on the bentonite clay.

On Sunday morning, all packed, we headed Southeast to the Forest of Dean and the Severn Estuary, and here was something completely different – much younger than Silurian. The Forest is almost entirely Carboniferous with considerable amounts of coal measures. During the course of the morning the group saw many reminders of the thriving coal-mining industry carried on by the "Free Foresters." Much, if not all of the coal winning was by drift mines which continued to operate well into the 20th century. As with the Mortimer Forest Trail, there is a walk called the Blakeney Walk that allows one to see the progression from the Devonian Old Red Sandstone through to the upper measures of the Carboniferous represented by the Pennant Sandstones. Continuing uplift in the area during the Upper Carboniferous led to folding – the Forest of Dean Syncline - and planing off of the Lower Carboniferous rocks. During a relatively stable period in terms of earth movements and a climatic environment of warm and humid conditions, vegetation flourished in deltaic swamps, which eventually produced coal. The coal measures of the Forest are very thin because there was a steady influx of sediments and continuing subsidence, which formed the Coal Measures cyclothem.

After the Forest of Dean and a pub stop, the group headed to the Severn Estuary at Lydney Cliff to see the Old Red Sandstone cliffs at low tide – 27 feet lower than high tide in this estuary. The cliff face comprises a series of cyclothem starting at the base with estuarial deposition followed by fluvial sandstone deposits. In the top layers, the deposits of siltstone are rich in limestone concretions known locally as "race." There is a most remarkable section of the cliff where a siphoning process has produced a column of rock which is surreal in appearance.

It was a most enjoyable weekend trip and nice to see the Olver and Cresswell families, the Society's "outliers" in the west.

Peter Cotton