

## A dry Sunday in Wales - an account of the Society's summer field trip in Clun Forest

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KRAUSE, J. (1983). A dry Sunday in Wales - an account of the Society's summer field trip in Clun Forest. *Proceedings of the Shropshire Geological Society*, **3**, 21-23. Study of the Ludlovian rocks of Silurian age which are found between the valleys of the Teme and Lugg, west of Knighton.

The exposures visited were in what is known as the "basin" facies of the Ludlow Series, including Knighton, Dutlas, Felindre, Black Mountain, Rhoscrug and Crug. They represent accumulations of material in a variable depth, and often tectonically active, offshore zone. They are equivalent in age to the shallow water "shelf" facies of the Ludlow area, but the thickness of the basin deposits is greatly in excess of the thickness of the shelf deposits.

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This account of the Society's summer field trip in Clun Forest on Sunday 10<sup>th</sup> July 1983 has been entitled "*A dry Sunday in Wales*" because the trip was dry in three ways: it was gloriously sunny, there was no pub stop for lunch (although Welsh Customs and Excise did fail to confiscate cans of lager disguised as pemmican) and, thirdly, the promised moorland pond for the children to paddle in had vanished. Nonetheless, the twenty five eager palaeontologists who met in the quietest car park under the sun at 10.30 a.m. sharp were not disappointed by their day west of Offa's Dyke, where Shropshire merges imperceptibly into Wales.

The day's programme was based around exposures in the Ludlovian rocks of Silurian age which are found between the valleys of the Teme and Lugg, west of Knighton, and were first described in a paper entitled: "*The Geology of the South Western Part of Clun Forest*" by John Rowland Earp, Q.J.G.S. vol. 96, pages 1-10.

A large number of sites were visited, following an itinerary that began with beds of Whitcliffe age, and then going down through the succession to rocks of Middle Elton age. [N.B. Earp's paper uses stratigraphical units which have since been superseded. Where possible, a correlation between the old and the new is given.] I am much indebted to John Norton from the Ludlow Museum, both for his assistance in leading the trip, and for constructing a faunal list of what was found on the trip. His good nature and high degree of professionalism are invaluable to the Society.

### Site 1

Teme Valley six miles west of Knighton and ½ mile north of Dutlas. A small, overgrown,

nettle-ridden quarry was visited in which *Dalmanella lunata* Beds (Earp), the equivalent of the Whitcliffe Beds, were present. The brave procured some varied fossil remains. These were mainly found in a grey-green siltstone, often in fairly crowded bands. The brachiopods were *Salopina lunata*, *Protochonetes Ludloviensis* and "*Camarotoechia*" *nucula*. There were also crinoid columnals, *Orthoceras*, algae (? or slumping patterns) and Bryozoans.

### Site 2

One mile south west of Felindre near Tyn-y-ddôl Farm. A large exposure in a track (both in the floor and at one side) that led up the hill opposite the farm, exposing the *Dayia navicula* Beds of Earp, now known as the Upper Leintwardine Beds. These flaggy siltstones contained a fairly limited fauna, including the brachiopods *Isorthis obicularis* and *Dayia navicula*. There was also a large number of orthocones, though some of the large ones may well have been gouge marks caused by the slumping.

### Site 3

A roadside exposure one mile south of Lower House Farm. Some recent road improvements have exposed Earp's *Wilsonia wilsoni* grits, now known as the Lower Leintwardine Beds. Although no bedding was visible, there was evidence to suggest that the loose debris containing the fossils was *in situ*. A good faunal collection was made. Brachiopods were *Sphaerirhynchia wilsoni*, "*Camarotoechia*" *nucula*; bivalves were *Cardiola interupta*, v "*Pterinea*" sp., *Grammysia* sp.. Also present were *Orthoceras* and *Monograptus* sp..

**Site 4**

Also the lunch stop, when the sprogs were troughed! This was in a small quarry which should have contained a pool, ½ mile south west of Black Mountain. Whilst some talked of shoes, ships and sealing wax, and others frolicked in the heather and bracken, the dedicated followers of Murchison worked bravely in the searing heat to expose the secrets in the rocks. The quarry exposed the “Contorted Beds” of Earp, equivalent to the Leintwardine Beds. There was much evidence of slumping and channelling. A large number of sedimentological features were studied, and our knowledge was greatly enhanced by the explanations proffered by John Pauley of Liverpool University. Readers are recommended to see plate VIII B and pages 66, 69 and 70 of the *Welsh Borderland Regional Geology* for further clarification. The rocks were mainly mudstones, with some fossil rich bands, creating a sandwich effect. Fauna included: brachiopods *Sphaerirhynchia wilsoni*, “*Camarotoechia*” *nucula* and *Dayia navicula*; Bryozoans, crinoid columnals and plates, Ostracods and Annelid burrows.

**Site 5**

¼ mile south west of Tynrhyn Farm. A large quarry to the west of the road, with much the same on view as Site 4. The fossils also included *Isorthis obicularis*. The children paddled in a stream.

**Site 6**

A small roadside exposure near Rhoscrug on the Llanbister-Presteigne road, exposing black graptolitic Ludlow Shales, equivalent to the Middle Elton Beds. Many graptolites were discovered, including the zone fossil *Neodiversograptus nilssoni*, formerly *Monograptus nilssoni*. Other fossils included part of a *Eurypterid*, *Orthoceras*, the bivalve *Cardiola interupta*, and *Dawsonocerus*.

**Site 7**

A shady streamside halt near Crug. Whilst the children played in the stream, the devoted got steamed up steaming up a rather steep track to a quarry exposing the *Wilsonia wilsoni* grits of Earp (Leintwardine Beds). The effort was worth it, since an extensive fossil collection was made. These included the trilobites *Calymene* (cast of head) and *Encrinurus* (tail); brachiopods “*Camarotoechia*” *nucula*, *Dayia navicula*, *Protochonetes ludloviensis*, *Atrypa reticularis*, *Isorthis obicularis*; many graptolites, orientated in the direction of current movement, including *Saetograptus leintwardinensis* (originally *Monograptus leintwardinensis*); bits of *Eurypterid*, *Cardiola interupta* (a bivalve), crinoid columnals and plates, and Bryozoans.

These exposures are in what is known as the “basin” facies of the Ludlow Series. They represent accumulations of material in a variable depth, and often tectonically active, offshore zone. They are equivalent in age to the shallow water “shelf” facies of the Ludlow area, but the thickness of the basin deposits is greatly in excess of the thickness of the shelf deposits. It is 50 years since Earp's research was done and, whilst it remains the main source of information about the area, there is much to suggest that new investigations might enhance our understanding of an area that has tended to be passed by, both by tourists and by geologists.

Lastly, thank you to all those who took part; I am sure that we all enjoyed something of the day. With uplifted hearts we travelled homewards, passing the faithful of Crug on their way to chapel.

Jeremy Krause

FIELD EXCURSION TO CLUN FOREST : SUMMER 1985. (GRID REFERENCES AVAILABLE ON REQUEST)

