

## Field Meeting Report: Ordovician rocks of South Shropshire, led by Bill Dean 12<sup>th</sup> June 1988

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GIBSON, S. (1989). Field Meeting Report: Ordovician rocks of South Shropshire, led by Bill Dean 12<sup>th</sup> June 1988. *Proceedings of the Shropshire Geological Society*, **8**, 17–19. The purpose of the field meeting was to visit Ordovician exposures in South Shropshire.

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### INTRODUCTION

It was a very pleasant June day and around eighteen of the Society members met at Horderley. This was Professor Dean's last field excursion as our President and both weather and geology combined to make a memorable day.

The Field Excursion followed the plan laid out in the Professor's notes that follow and was notable for the large number of fossils found.

### GEOLOGICAL SETTING

Professor Dean's general introduction placed this area of Shropshire near the edge of the Midland platform in the Ordovician. A major marine transgression occurred during the Caradocian. This eustatic rise in sea level is now thought to be due to an increase in activity at spreading centres in the world's oceans. The shelf sea facies, well seen to the east of the Church Stretton Fault, is a major contrast to the area of Ordovician rock around Shelve. (ref. Professor Dean's Field Trip held on 17<sup>th</sup> May 1987).

Although the Shelve Inlier in west Shropshire contains a very thick sequence of Ordovician rocks, ranging in age from Tremadoc to Caradoc and including thick developments of volcanics, the succession a few kilometres to the southeast is very different. Excluding the poorly exposed mudstones (Shinerton Shales) of the Tremadoc Series, only rocks of the Caradoc Series, for which this is the type area, are developed. The strata are essentially of shallow marine type and represent the products of a transgression from the Welsh Basin on to the Midland Platform, as a result of which the lowest beds lie above a marked unconformity. In general the strata have

only a moderate dip to the south-east but this may steepen in the vicinity of the Church Stretton fault system. Principal rock types include conglomerates, coarse- and fine-grained sandstones, and mudstones; fossils are mainly of shallow marine, benthic type and may be locally abundant.

### ITINERARY

#### LOCALITY 1: Horderley

The north side of the road east of Horderley shows a good section through the Horderley sandstone, probably the original "Caradoc Sandstone" of Murchison (1839) that formed the basis of the Caradoc Series. Brown or maroon weathering, fine-grained sandstones, sometimes showing cross bedding. Fossils mostly confined to small lenses of shelly limestone with small brachiopods. Still farther east along the same road are exposures of Cheney Longville Flags, light-brown, thin-bedded siltstones, some of them cross-bedded; fossils (brachiopods) in thin, weathered bands.

#### LOCALITY 2: River Onny

Walk to Horderley and cross River Onny by small bridge to reach old quarry near left bank. Hoar Edge Grits, with steep dip, rest unconformably on Precambrian (Western Longmyndian), maroon sandstones, though the junction is deeply weathered. These basal Caradoc strata comprise conglomerates and sandstones, some of them sufficiently calcareous to have been burnt for lime. fossils are uncommon but include thick-shelled brachiopods (*Dinorthis*). Walk east along route of old Bishops Castle railway line, with good section in Horderley Sandstone. Note

changes of dip produced by part of the Church Stretton fault system that runs NNE-SSW through the Onny Valley just east of Horderley.

### **LOCALITY 3: Marsh Wood Quarry**

Marsh Wood Quarry, south of Marshbrook, was once a well-known section in the highest Cheney Longville Flags that formed the basis of Bancroft's Marshbrookian Stage. Although the exposure has deteriorated, the characteristic brachiopods (including *Dalmanella unguis*) can still be found. The small, conical mollusc *Tentaculites* is sometimes abundant, though weathered, on bedding planes.

### **LOCALITY 4: Marshbrook**

The section at the west end of Cheney Pool, east of Marshbrook, exposes grey mudstones that form the typical development of the Acton Scott Beds. The rocks were probably deposited under deeper marine conditions than the strata examined earlier today, and the fauna is more varied, including some bivalves, gastropods and occasional nautiloid cephalopods in addition to brachiopods and trilobites. Graptolite fragments may be found uncommonly.

### **LOCALITY 5: Acton Scott**

A disused quarry 300 m west of Acton Scott Church was one of several opened for building stone near the village. The rocks represent a local development of siltstone or fine-grained sandstone (originally calcareous but now weathered) within the Acton Scott Beds. They contrast markedly with those seen at Locality 4 and fossils (mostly brachiopods) are less varied,

though they may be abundant in thin layers. If the weather is clear, the high ground near the church provides a very good view of the local geology.

### **LOCALITY 6: Soudley**

The large, disused quarry at Soudley, once exploited thick bedded sandstone (Soudley Sandstone), now less well exposed in the lower part of the section. The upper part of the section shows one of the best sections in so-called *Alternata* Limestone, made up largely of thin bedded siltstones in which lenticular beds of shelly limestone occur. The lenses, deposited under shallow marine conditions, are made up of brachiopod valves, particularly *Heterorthis alternata*, though *Sowerbyella sericea*, *Strophomena grandis* and the inarticulate form *Tematis punctata* also occur. There is a local disconformity at the base of the *Alternata* Limestone, and the upper two-thirds of the Horderley Sandstone seen in the Onny Valley (Stop 1) are missing at Soudley.

### **LOCALITY 7: Hope Bowdler**

The excursion ends at the roadside section immediately west of Hope Bowdler. Shales rest with marked unconformity on Uriconian (older Precambrian) volcanic rocks (tuffs). The Hoar Edge Grits seen in the Onny Valley are absent at Hope Bowdler as a result of the transgressive base of the Caradoc strata. The Harnage Shales here comprise fossiliferous mudstones (with small brachiopods, trilobites, bryozoa and ostracods) together with some fine-grained sandstone and pebbles derived from the Uriconian rocks.

SILURIAN (Upper Llandovery Series)

UNCONFORMITY

Onny Shales (or Onnia Beds) - mudstones and shales with often abundant trinucleid trilobites

Acton Scott Beds - typically grey shales and mudstones, but sandstones developed locally at Acton Scott. Dalmanellid brachiopods abundant; occasional trilobites.

Cheney Longville Flags - fine-grained sandstones and flaggy siltstones; thin calcareous bands with trophomenid brachs.

Alternata Limestone - lenticular limestones and interbedded siltstones. *Heterorthis alternata* locally abundant.

LOCAL DISCONFORMITY

Horderley (or Chatwall) Sandstone - massive, grey green and purplish sandstones. Lenticular limestone beds with abundant brachiopods (Dalmanella, Sowerbyella) occur locally.

Glenburrel Beds - grey-green mudstones, poorly exposed

Burnage Shales - typically grey shales but pass laterally into sandy strata which forms part of base of local Ordovician rocks. Brachiopods, trilobites, ostracods occur.

Hoar Edge Grits (or Coston Beds) - sandstones and conglomerates.

MARKED UNCONFORMITY

PRE-CAMBRIAN, CAMBRIAN OR TREMAOOC ROCKS.

Figure 1: Generalised stratigraphic column for the Ordovician of South Shropshire.

*Disclaimer - The information contained in this account has been prepared from notes taken during the field meeting. Its sole aim is to provide a record of what was seen and provide an insight into the diversity of Ordovician geology outcropping in the vicinity of South Shropshire. It should not be used for any other purpose or construed as permission or an invitation to visit the sites or localities mentioned.*

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ISSN 1750-855x