Wigmore Road

[SO 4777 7329]–[SO 4981 7430]

Introduction

This site has previously appeared in GCR documentation under the name 'Ludford Lane Section, Mortimer Forest'. The appellation Wigmore Road is both more appropriate and prevents confusion with the famous section at 'Ludford Lane' itself (see Chapter 6), which is actually the terminal part of the road to Wigmore. The site consists of a series of small localities in the type area of the Ludlow Series, in the anticline south-west of Ludlow, Shropshire. Most of the exposures are either fenced quarries or excavations along the south side of the road from Ludlow to Wigmore (Figure 5.6). Elton, Bringewood, Leintwardine and Whitcliffe groups are represented.

The outcrops were key localities detailed in Holland *et al.* (1959; 1963, p. 126, fig. 8), research that established a modern stratigraphy for the Ludlow Series. None of the sites is designated basal boundary or body stratotypes, but each one is a locality of the Mortimer Forest Geological Trail (MFGT: Lawson, 1977b; Jenkinson, 1991), which aims to demonstrate an overview of the type Ludlow sequence for general educational purposes. Other, stratotype localities in this trail are the GCR sites at Pitch Coppice, The Whitcliffe and Ludford Lane and Ludford Corner. The Wigmore Road exposures are also described in a field guide to the Silurian of the Welsh Basin (Siveter *et al.,* 1989 locality 3.3) and are placed in regional context in Lawson and White's (1989) summary of the type Ludlow.

The macrofaunas of these localities are documented in Holland *et al.* (1963), Lawson (1977b) and Lawson and White (1989). Conodont (Aldridge and Smith, 1985) and acritarch and chitinozoan assemblages (Lister, 1970) have also been recovered from all of the exposures.

Description

The localities are near and parallel to the axial trace of the Ludlow Anticline for about 3 km; all beds dip gently north-west.

The stream-bank adjacent to the forestry track at the top of Mary Knoll Valley, in Mortimer Forest, exposes olive mudstones of the Middle Elton Formation ([SO 4777 7329]; Holland *et al.,* 1963, locality 17). The outcrop is very close to MFGT trackside locality 4 [SO 4775 7315] of the same horizon. The mudstones contain *Dalmanites,* brachiopods, orthoconic nautiloids and the graptolites *Neodiversograptus nilssoni* and *Saetograptus colonus.*

At the side of the forestry track at Gorsty, north of the Wigmore Road, exposures and an extended excavation display a long strike section of the Upper Elton Formation [SO 4789 7357] to [SO 4760 7350]; Holland *et al.,* 1963, locality 18 to MFGT locality 5). These evenly bedded, flaggy, calcareous siltstones contain a restricted, but relatively rich and mostly pelagic macrofauna. Nautiloids and the graptolite *Pristiograptus tumescens are* common; rarer associates include the conodonts *Panderodus* and *Ozarkodina excavata,* a few small brachiopods species such as *Lingula lata* and *Shagamella ludlovienisis,* and the bivalve *Cardiola interrupta.* The beds also yield palynomorphs.

The roadside quarry at [SO 4828 7377] (Holland *et al.,* 1963, locality 19; MFGT locality 6) exposes olive calcareous siltstones of the Lower Bringewood Formation. The beds show undulating partings and are in some cases nodular. The modestly abundant macrofauna consists mostly of broken brachiopod shells; for example, *Leptaena depressa, Leptostrophia filosa, Mesopholidostrophia lepisma, Shagamella* and *Shaleria.* Fragmentary conodonts of the genera *Kockelella, Ozarkodina* and *Panderodus,* the trilobite *Dalmanites,* acritarchs and an unstudied ostracod fauna are also present.

The Upper Bringewood Formation, which forms a distinctive topographical scarp in the Ludlow Anticline, crops out at the roadside locality at [SO 4874 7389] (Holland *et al.,* 1963, locality 23; MFGT locality 7). More nodular, calcareous and harder than the Lower Bringewood Formation, it is also distinguished by having solitary and colonial corals (*Heliolites,*

Favosites, Rhabdocyclus) and banks of the brachiopod *Kirkidium.* Other brachiopods present are *Atrypa reticularis, Gypidula lata, Leptaena depressa* and *Strophonella euglypha.* This locality has also yielded palynomorphs and abundant specimens of the conodonts *Ozarkodina confluens, Ozarkodina excavata, Panderodus unicostatus* and *Panderodus recurvatus* and rarer *Kockelella variabilis, Ozarkodina scanica* and *Oulodus* sp..

Flaggy, regularly bedded and occasionally nodular, calcareous siltstones of the Lower Leintwardine Formation occur in the roadside quarries at [SO 4887 7392] (*c.* 10 m of the basal part of the formation: Holland *et al.,* 1963, locality 24; MFGT locality 8) and [SO 4912 7399] (*c.* 6 m of the highest part of the Formation: Holland *et al.,* 1963, locality 25; MFGT locality 9). The beds show the honeycomb weathering appearance so characteristic of local outcrops of that formation. They contain diverse shelly faunas, often concentrated in bands; for example, the bivalve *Fucbsella amygdalina* and the brachiopods *Atrypa reticularis, Dayia navicula, Isorthis orbicularis, Microsphaeridiorhynchus nucula, Shagamella ludloviensis* and *Sphaerirhynchia wilsoni.* The stratigraphically lower quarry yields abundant conodonts: *Ozarkodina, Panderodus, Distomodus, Pelekysgnathus, Oulodus, Pseudooneotodus* and *Decoriconus.* The early Ludfordian zonal graptolite *Saetograptus leintwardinensis* is present in the stratigraphically higher quarry. Palynomorphs have been recovered from both quarries.

Just west of the Forestry Commission Marches District Office about 3 m of Upper Leintwardine Formation are exposed both at [SO 4922 7408] (Holland *et al.,* 1963, locality 26; MFGT locality 10) and at a slightly younger horizon at [SO 4930 7411] (Holland *et al.,* 1963, locality 27; MFGT locality 11). These flaggy siltstones are less calcareous and lack the honeycomb appearance of the Lower Leintwardine beds. The distinctive, readily correlatable Upper Leintwardine macrofauna (see Lawson and Whitaker, 1969; Siveter, 1989) is characterized by the index ostracod *Neobeyrichia lauensis* and its associated brachiopod *Aegiria grayi,* the more common presence of bivalves (*Fuchsella, Goniophora*), gastropods (*Bembexia*), annelids (*Serpuloides*) and the brachiopods *Salopina lunata* and *Protochonetes ludloviensis,* and by the acme of the trilobites *Alcymene puellaris* and *Encrinurus stubblefieldi.*

As seen at the quarry at [SO 4981 7430] (Holland *et al.,* 1963, locality 28; MFGT locality 12), some 1.5 km west of Ludlow, the loss of many brachiopod, trilobite and graptolite genera and the increased abundance of orthoconic nautiloids (e.g. *Kionoceras, Leurocyloceras, Orthoceras*) and bivalves signals the change into the more irregularly and thicker bedded Lower Whitcliffe Formation. The brachiopods *Camarotoechia, Protochonetes, Salopina* and, to some extent, *Dayia* maintain their abundances.

Interpretation

Overall, this sequence of Ludlow strata represents shallow marine deposition on the Midland Platform, the storm affected shelf (e.g. see Holland and Lawson, 1963; Watkins, 1979; Watkins and Aithie, 1980; Cherns, 1988) bordering the eastern flank of the Welsh Basin (Siveter *et al.,* 1989, figure 10; Bassett *et al.,* 1992, figs. S4a-S5b). General sea-level curves for the Ludlow indicate an early Ludlow transgression (Elton Group) superseded by a mid- to late Ludlow regression (e.g. Siveter *et al.,* 1989; Johnson *et al.,* 1991). The transition from marine Whitcliffe deposits into Old Red Sandstone facies of P■ídolí age can be examined at the eastern end of the Wigmore Road; that is, at Ludford Lane and Ludford Corner (MFGT 13) at Ludlow

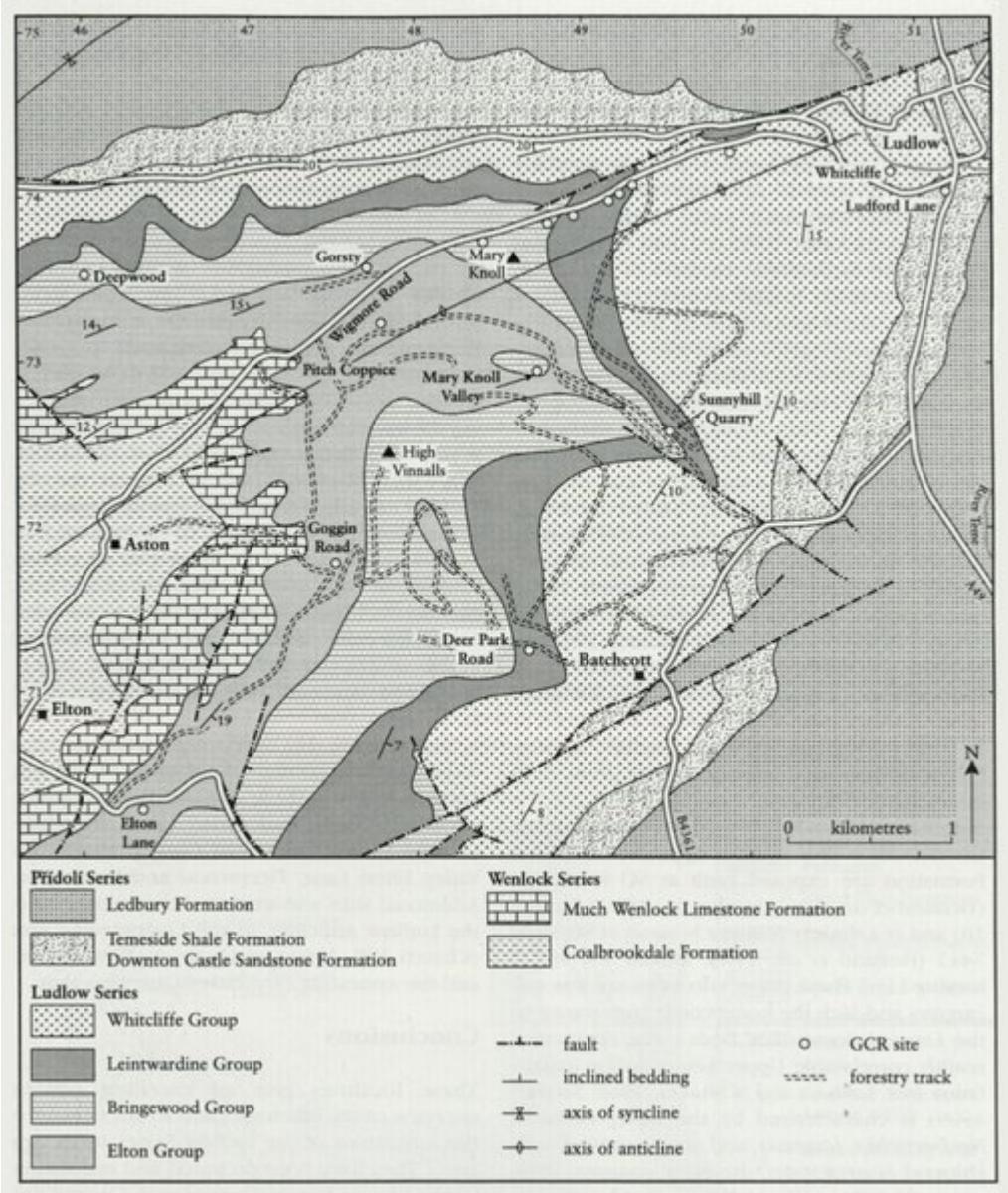
Locally there are many other GCR sites that display various stratigraphical units of the type Ludlow Series. These include Pitch Coppice, Sunnyhill, Deer Park Road, The Whitcliffe, Ludford Lane and Ludford Corner, Mary Knoll Valley, Elton Lane, Deepwood and Burrington. Additional sites also exist at the western end of the Ludlow Anticline, in the Leintwardine area (Church Hill, Mocktree Quarries, Bow Bridge) and the Aymestrey (Aymestrey Quarries) area.

Conclusions

These localities give an excellent general overview of the lithologies and fossils of most of the formations of the Ludlow Series in its type area. They have been prepared and maintained by the former Nature Conservancy Council and the Forestry Commission in order to cater for the large number of geological parties that visit the region for teaching purposes. They are a valuable educational resource and have the added value of relieving the formally designated

stratotype sections (many of which are situated in the subsequently made forestry tracks in Mortimer Forest) from casual and less research-based overuse.

References



(Figure 5.6) Map of the geology south-west of Ludlow, showing GCR sites along the Wigmore Road and elsewhere in the eastern part of the Ludlow Anticline (after Holland et al., 1963; Lawson, 1977; Lawson and White, 1989).