Longville–Stanway Road Section

[SO 539 927]

Introduction

This site is situated on the lower part of the scarp face of Wenlock Edge, about half-way between Ironbridge in the north-east and the Onny valley in the south-west (Figure 4.27). The strata in the roadside exposures comprising the site were described in the facies and faunal analysis of the upper Wenlock–lower Ludlow rocks of the Wenlock Edge area by Shergold and Bassett (1970; (Figure 4.36); see also Scoffin, 1971), though recognition of the faunal (and main) importance of the strata here, specifically in helping construct a biostratigraphical framework for the Much Wenlock Limestone Formation in the type Wenlock area, did not occur until Bassett *et* al. (1975) undertook their revision of this region. Exposed in the section are the Longville and Edgton members of the Much Wenlock Limestone Formation, the bases of which are defined here (Bassett, 1989a), together with the uppermost part of the Farley Member, Coalbrookdale Formation.

Description

The section, which is more or less continuous, occurs on the east side of the minor (C-class) road connecting Longville in the Dale to Stanway. The upper Wenlock beds here dip south-east at about 9°. Several metres of mudstones and nodular limestones of the Farley Member are succeeded by some 12 to 18 m of the Longville Member, the base of which is taken at the point where the first continuous bed of limestone enters the sequence. The muddy and silty limestones of the Longville Member comprise the tabular limestone lithofacies of the Much Wenlock Limestone Formation; individual beds vary in thickness from 3–25 cm but in general they are 7–10 cm. Some of the limestones are very fine-grained, light grey to greenish in colour and of 'chinastone' appearance, others are fine-grained and light grey to buff coloured, whilst there are also coarser, more crinoidal and dark grey beds.

The Longville Member is succeeded by the Edgton Member, which is made up of two lithofades: a (lower) nodular limestone and an (upper) pelmatozoan limestone. The base of the Edgton Member is taken at a point in the section where the nodular limestones replace the tabular limestones, about 18 m above the base of the Longville Member. The nodular beds are about 5 m thick here (thickening to about 9 m in the River Onny area) and consist of micrites and biomicrites which are typically well bioturbated. The pelmatozoan limestones form a thin (34 m) capping to the Much Wenlock Limestone escarpment, and represent a fine lateral facies of the pelmatozoan–coral gravels of the (reef) area to the north-east.

The section yields a mainly shelly fauna of brachiopods together with pelmatozoan and bryozoan debris, though trilobites also occur, for example *Calymene tuberculosa* (see Siveter, 1996). Most importantly, graptolites have been recovered (Bassett *et al.,* 1975). From the Farley Member, 0.9 m below the base of the Much Wenlock Limestone Formation, *Monograptus ludensis* and *Pristiograptus jaegeri* have been recorded. *M. ludensis, P.* aff. *jaegeri* and *Monograptus deubeli* have been found within the Much Wenlock Limestone Formation 0.6 m above its base, with *M. ludensis,* again, 3.9 m above, and *M.* cf. *ludensis* 5.7 m above. The Longville Member has also yielded conodonts, including *Ozarkodina bohemica bohemica* (R.J. Aldridge, pers. comm.).

Interpretation

The Much Wenlock Limestone Formation of Wenlock Edge is divisible along its length into two main areas, the reef tract north-east from Easthope to the River Severn, and the off-reef tract south-west of Easthope (Crosfield and Johnston, 1914; Shergold and Bassett, 1970; Scoffin, 1971; Bassett *et al.,* 1975; Bassett, 1989a). The Much Wenlock Limestone Formation of the reef area, unlike that of the non-reef area, is undifferentiated vertically into formal stratigraphical units, the Longville and Edgton members being confined to the non-reef area that includes the Longville–Stanway section.

The graptolites identified from here, from the uppermost Farley Member, Coalbrookdale Formation, and the lower part of the Longville Member, Much Wenlock Limestone Formation, allow a *ludensis* Biozone age to be assigned to these strata (Bassett *et al.,* 1975); previously their age in terms of the graptolite sequence was very uncertain (Cantrill, 1927; Das Gupta, 1932, 1933; Pocock *et al.,* 1938; Whittard, 1952; Shergold and Bassett, 1970). The graptolites also allow comparison of the age of, in particular, the Much Wenlock Limestone Formation in its type area with that of this limestone unit in the type Ludlow area. Work in the 1960s (Holland *et al.,* 1963; Warren *et al.,* 1966; Holland *et al.,* 1969) showed that the *ludensis* (= *vulgaris*) Biozone, which had previously been regarded as the base of the Ludlow Series and correlated with the base of the 'Lower Ludlow Shales' (Wood, 1900) in the Ludlow area, in fact spanned the uppermost part of the 'Wenlock Shale' (= Coalbrookdale Formation) and at least the lower part of the 'Wenlock Limestone' in that area (see Burlington site report). Thus the basal part, at least, of the Much Wenlock Limestone Formation was established as coeval in the Wenlock and the Ludlow districts, and, though graptolites are lacking from the upper part of this unit, it is thought probable that the whole of it belongs to the *ludensis* Biozone (Bassett, 1989a).

An upper age limit on the Much Wenlock Limestone Formation of the Wenlock area is provided by the record (White, 1974) of *Monograptus uncinatus orbatus* from the basal 3–5 m of the Lower Elton Formation, Ludlow Series, of the Much Wenlock area, which indicates that the base of that series in this area lies at, or close to, the base of the *Neodiversograptus nilssoni* Biozone. A more recent graptolite find (Loydell and Fone, 1998), of *Colonograptus colonus,* from the Lower Elton Formation of the Much Wenlock area indicates either the *nilssoni* or the lower part of the succeeding *scanicus* Biozone. The base of the Ludlow Series in the Ludlow area has been assigned to the *nilssoni* Biozone (Lawson and White, 1989).

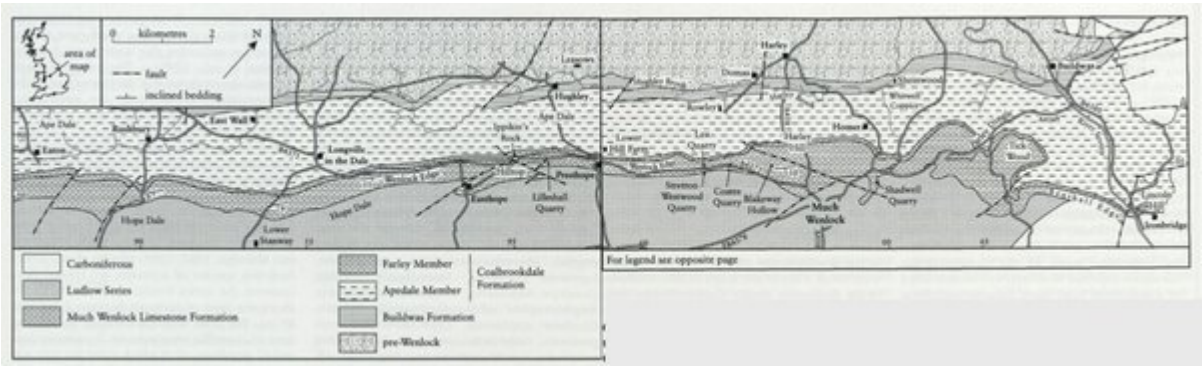
The occurrence of *C. tuberculosa* in the basal Much Wenlock Limestone Formation of the Longville-Stanway site is one of only two records from Britain of this species, which is typical of the late Wenlock Mulde Beds on Gotland (Siveter, 1996).

In terms of the regional framework of sites in the type Wenlock area, the Longville–Stanway section sits stratigraphically within the vertical range of strata exposed in the reefal Harley Hill section to the north-east, which, also, contains the uppermost part of the Farley Member succeeded by the Much Wenlock Limestone Formation.

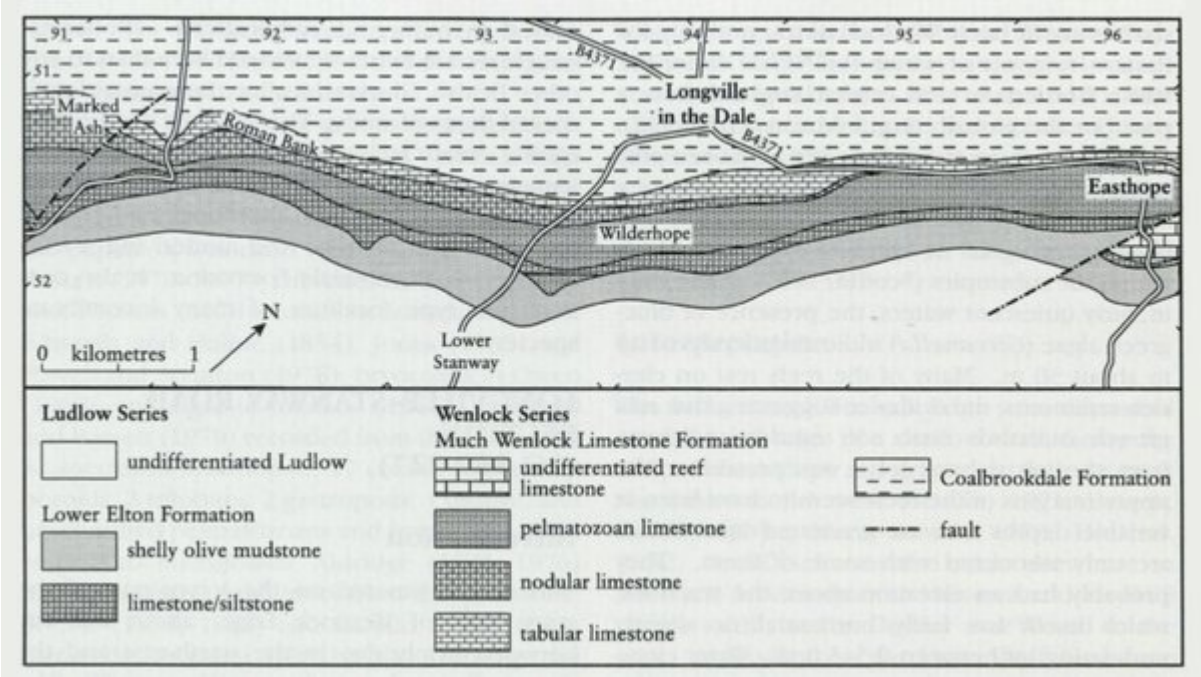
Conclusions

The graptolites from this site are of critical importance in providing a biostratigraphical framework for upper Wenlock strata (uppermost part of the Coalbrookdale Formation and in particular the Much Wenlock Limestone Formation) in the type Wenlock area, and for linking this framework to that of the late Wenlock and early Ludlow rocks of the type Ludlow area to the south-west. The non-reef facies exposed here complement those facies of the reef area of the Easthope–Harley Hill site to the north-east. The bases of the Longville and the Edgton members of the Much Wenlock Limestone Formation are defined in this section.

References



(Figure 4.27) Geology of the Wenlock Edge–Benthall Edge area between Eaton and Ironbridge, Shropshire (after Bassett et al., 1975).



(Figure 4.36) Longville–Stanway Road Section. Lithofacies distribution in the Much Wenlock Limestone and lower Elton formations of the non-reef area between Marked Ash and Easthope, Wenlock Edge, Shropshire. (after Shergold and Bassett, 1970).