
Mary Knoll Valley

[SO 4873 7292]

Introduction

This locality is in the low bank of an old track on the western slopes of Mary Knoll Valley in Mortimer Forest, on the southern limb of the Ludlow Anticline, south-west of Ludlow, Shropshire (Figure 5.6). It once exposed several small outcrops of Elton Group and Bringewood Group strata, and was selected by Holland *et al.* (1959; 1963) as the standard section for the then base of both the Lower Bringewood Beds and the Bringewoodian Stage of the type Ludlow Series. However, with the international formalization of the type Ludlow stratigraphy (e.g. see Holland, 1980a, b; Martinsson *et al.*, 1981) the Bringewoodian Stage became redundant. The section is at present badly degraded and the Upper Elton Formation–Lower Bringewood Formation junction is currently best demonstrated locally in the nearby sequence at Goggin Road (see this chapter). Nevertheless, the locality in Mary Knoll Valley remains the stratotype for the base of the Lower Bringewood Formation.

The site featured in the field guide of the Subcommittee on Silurian stratigraphy (Bassett *et al.*, 1979, locality 3.11) and in Lawson and White's (1989) account of the type Ludlow Series. In addition to rich macrofaunas (Holland *et al.*, 1963; Watkins, 1979) it has also yielded abundant palynomorph assemblages (Lister, 1970).

Description

The locality formerly exposed Upper Elton Formation and Lower Bringewood Formation, Gorstian Stage, strata dipping 10° ESE (Figure 5.26). The junction is drawn at a fairly rapid change in lithology and fauna (Holland *et al.*, 1963; Watkins, 1979, fig. 16).

The Upper Elton beds are calcareous, flaggy siltstones, with occasional bands of limestone. *Pristiograptus tumescens* is common but, apart from the brachiopod *Shagamella ludloviensis* and the trilobite *Dalmanites*, shelly fossils are sparse.

The Lower Bringewood beds are more irregularly and thickly bedded, lack flaggy limestone bands and decalcify to a brownish colour. Above the *P. tumescens*-bearing basal horizons of the Lower Bringewood, shelly fossils dominate, especially *S. ludloviensis*, *Microsphaeridiorhynchus nucula*, *Dayia navicula*, *Dalmanites myops*, bryozoans and ostracods. Watkins (1979, p. 258, fig. 16) recorded his brachiopod-dominated *Mesopholidostrophia laevigata* benthic association from this locality, with the eponymous brachiopod and *Eospirifer radiatus* and *Gypidulalata* being common in the Lower Bringewood Formation.

Interpretation

These marine deposits accumulated along the eastern margin of the Welsh depositional basin (Siveter *et al.*, 1989, fig. 10; Bassett *et al.*, 1992, figs S4a, S4b). The graptolite-bearing Elton beds reflect part of a possible eustatic transgressive pulse of early Ludlow (Elton Group) age (e.g. see Johnson *et al.*, 1991). The shell-rich, Lower Bringewood strata reflect shallower water deposition, also on the shelf environment of the Midland Platform (e.g. see Holland *et al.*, 1963; Holland and Lawson, 1963; Watkins, 1979; Watkins and Aithie, 1980; Lawson and White, 1989).

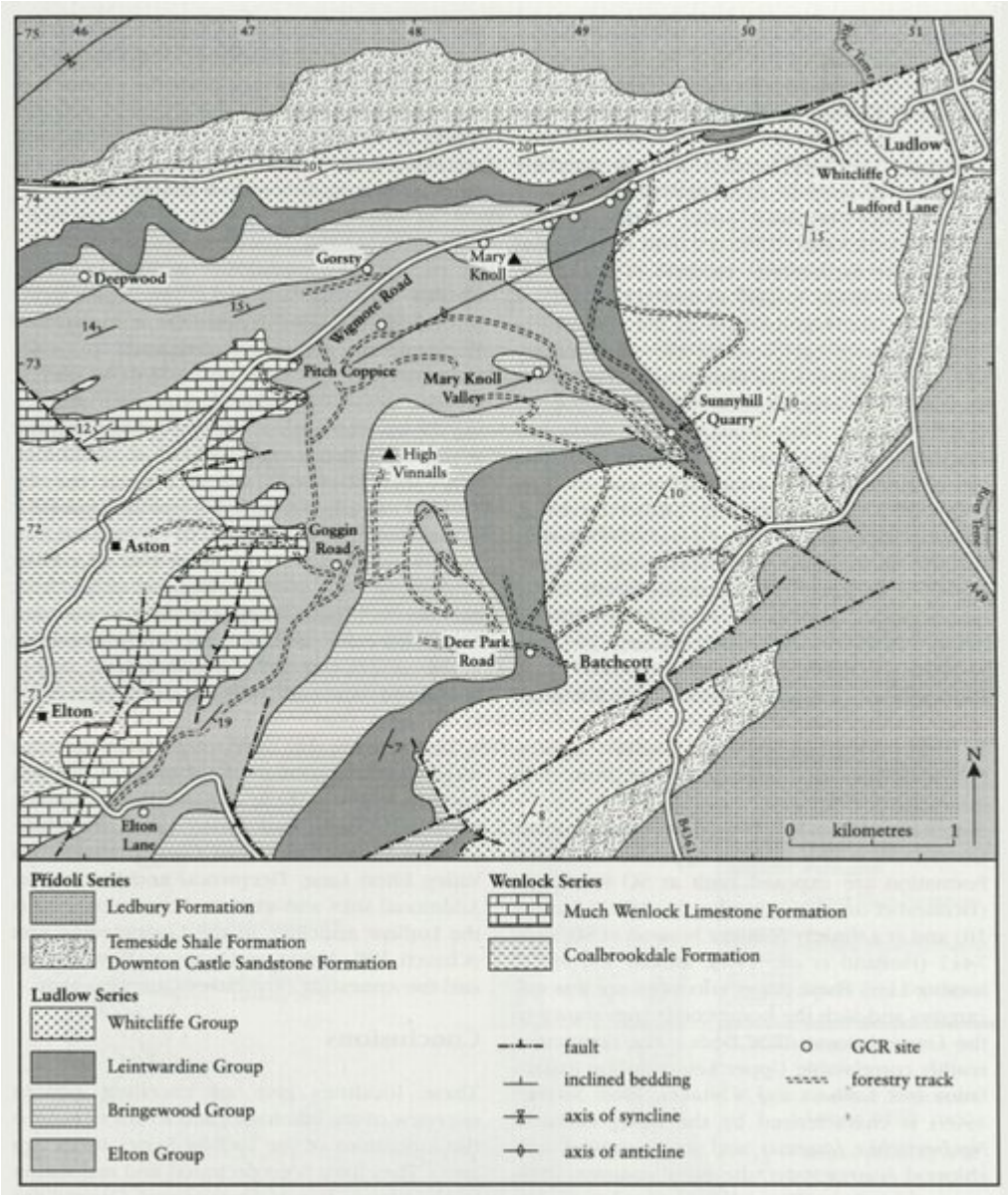
Goggin Road is the only other GCR site in the type Ludlow area that contains the equivalent stratigraphical sequence as that at Mary Knoll Valley.

Conclusions

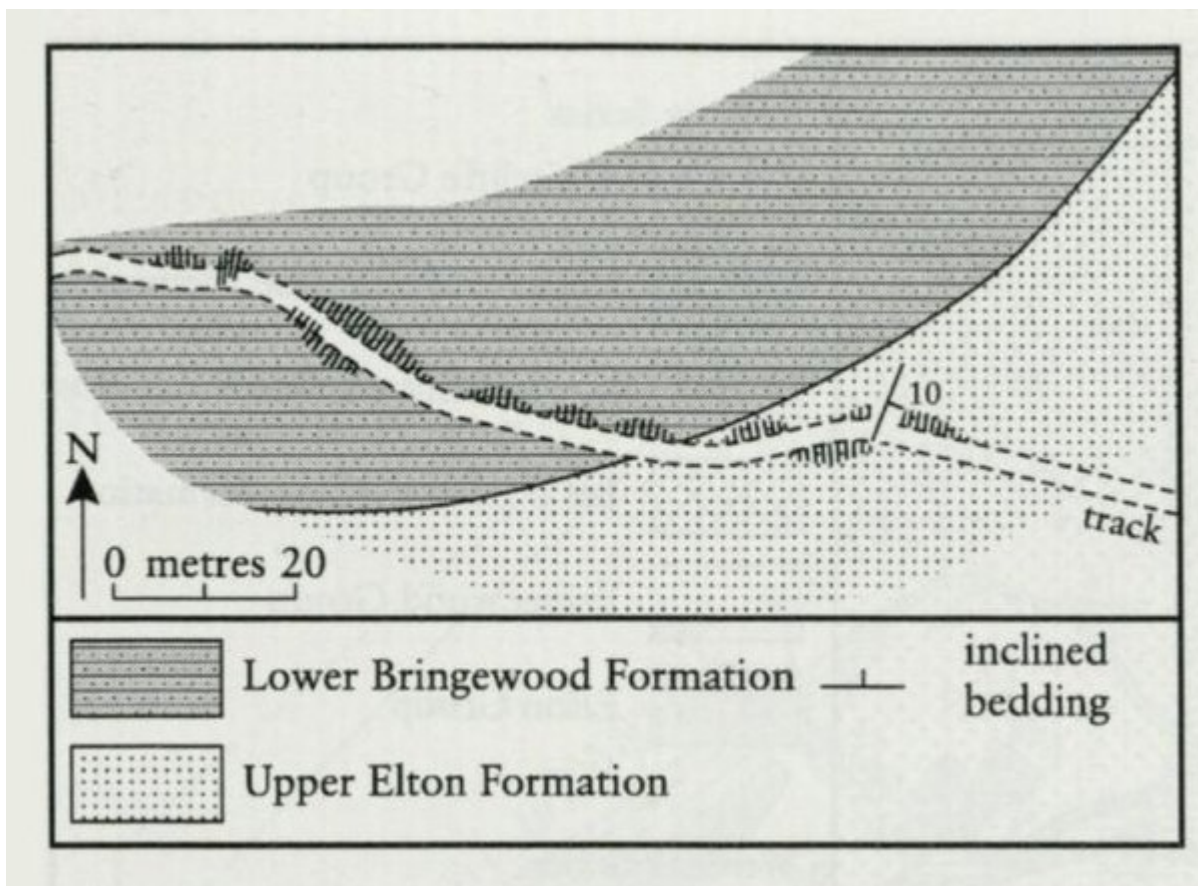
This locality is currently deteriorated and little of the original exposure remains, but renovation is possible. However, it remains the basal boundary stratotype for the Lower Bringewood Formation of the type Ludlow Series and is therefore of

national importance.

References



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



(Figure 5.26) Location of the basal boundary stratotype locality for the Lower Bringewood Formation, Mary Knoll Valley, Mortimer Forest, Shropshire (after Holland et al., 1963).