Bow Bridge

[SO 428 729]–[SO 431 732]

Introduction

This site extends along the immediate flanks of the River Teme, between Downton Bridge to just north of Bow Bridge, 0.5 km south of Downton on the Rock, Shropshire (Figure 5.23). It contains late Gorstian to earliest Ludfordian, Ludlow strata.

Bow Bridge is situated on the northern limb of the Ludlow Anticline, which is also the southern limb of the contiguous Downton Syncline. The site, at the eastern end of the area of the type Ludlow Series, was mapped by Holland *et al.* (1959, 1963). The adjoining ground along strike immediately to the west, from exposures in the gorge of the Teme to the district around Leintwardine, was studied by Whitaker (1962). Bow Bridge was also a locality used in Watkins and Aithie's (1980) analysis of Upper Bringewood facies and in Lister's (1970) study of Ludlow microflora.

The type Ludlow sequence and its various stratotypes are reviewed by Lawson and White (1989); their paper is complemented by a field guide that includes an overview of local Silurian geology (Siveter *et al.,* 1989). Bow Bridge contains body stratotypes for the two Bringewood formations (Lawson and White, 1989) and lies within the SSSI known as Downton Gorge. The latter marks the position of an overflow channel of a proglacial lake that occupied the Vale of Wigmore in the central part of the Ludlow Anticline.

Description

The southern part of the site consists of Lower Bringewood Formation, a body stratotype of which is seen at two small disused quarries ([SO 4289 7296]: locality 17 of Lawson and White, 1989; (Figure 5.23)) above the east bank of the River Teme and north of the aquaduct at Downton Bridge. These flaggy calcareous siltstones with limestone bands, dipping 23° to the north, contain abundant shelly fossils, especially brachiopods. The fauna includes *Atrypa reticularis, Dayia navicula, Leptaena depressa, Protochonetes minimus, Sphaerirhynthia wilsoni, Strophonella euglypha,* bryozoans, crinoids and *Monograptus sensu lato* (Holland *et al.,* 1963).

The basal part of the Upper Bringewood Formation occurs about 70 m north of the Lower Bringewood quarries. This upper unit is well exposed in a laterally extensive, old quarry on the west side of the river (SO 4300 7311; Whitaker, 1962) and may also be examined in exposures [SO 4306 7313] dipping 20° to the north on the east of the River Teme just south of Bow Bridge itself. Both these outcrops, which together constitute a body stratotype (locality 20 of Lawson and White, 1989; (Figure 5.23)), are of irregularly flaggy and nodular, silty carbonates displaying typical, shelly-rich, Aymestry Limestone' facies (for which see Alexander, 1936; Lawson, 1973b; Cherns, 1988), with bands of corals and banks of the large brachiopod *Kirkidium knightii.* The fauna also consists of many other brachiopod species, together with corals, crinoids and bryozoans. In the Downton Gorge area the Bringewood Group is about 68 m thick (Whitaker, 1962).

At the extreme northern end of the site, about 100 m north-east of Bow Bridge, Holland *et al.* (1963, locality 46) record a small exposure of calcareous siltstones of the Lower Leintwardine Formation. The sequence continues to young northwards through the Leintwardine, Whitcliffe and, in the vicinity of Downton Castle Bridge, Downton Castle Sandstone formations.

Interpretation

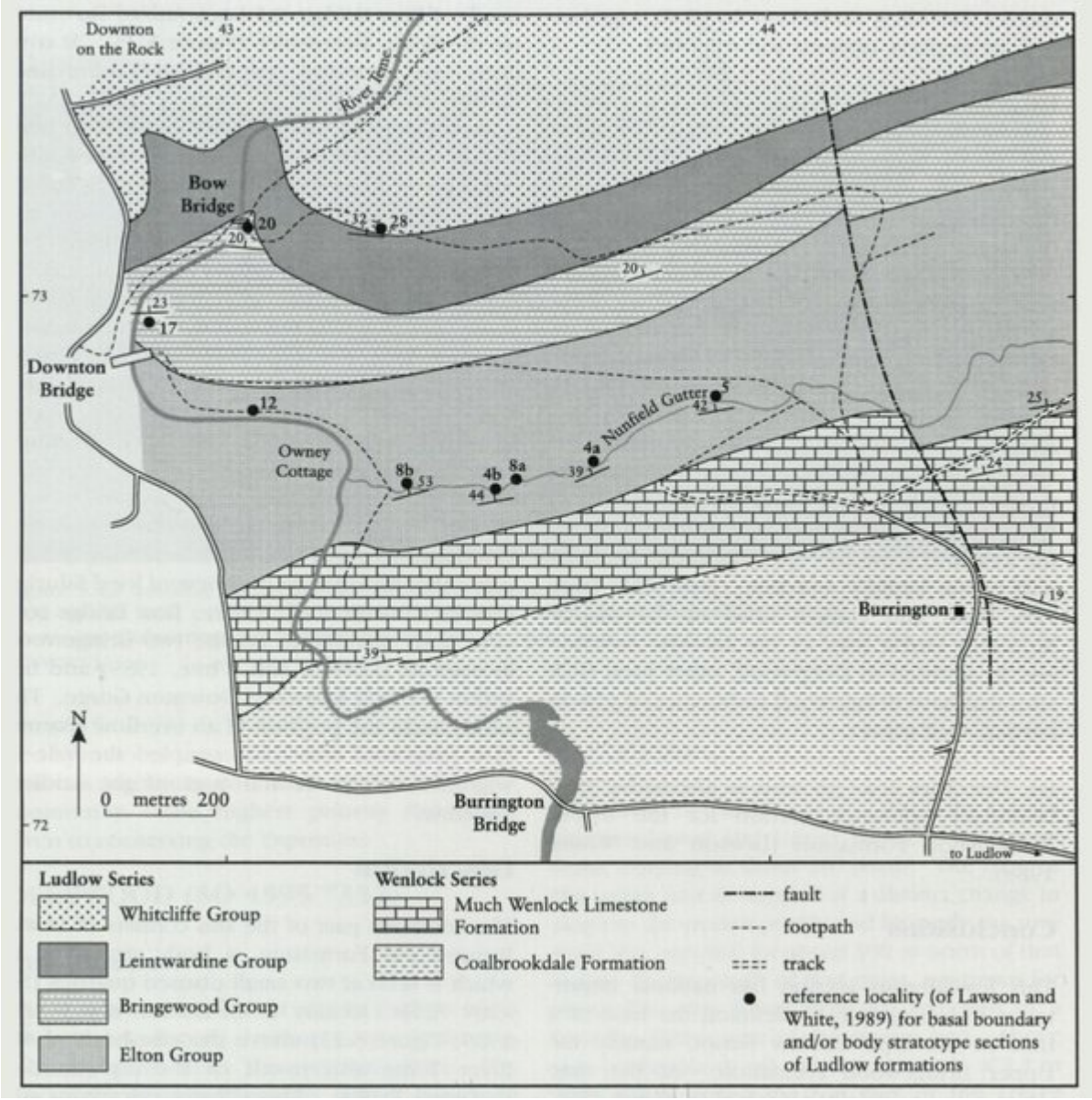
The shelly-rich, Upper Bringewood biocalcarenites of Bow Bridge accumulated in a relatively shallow, high-energy zone near the western shelf edge of the Midland Platform on the eastern margin of the Welsh Basin (Watkins and Aithie, 1980, figs 14–16; Cherns, 1988; Siveter *et al.,* 1989, fig. 10; Bassett *et al.,* 1992, fig. S4b).

Bow Bridge is one of many sites that define the Ludlow Series in its type area. Several such GCR sites that contain Bringewood Group strata occur nearer to Ludlow (e.g. see Deepwood, Sunnyhill, Goggin Road and Deer Park Road) and hence, compared to Bow Bridge, reflect somewhat more sheltered, inner shelf environments in the late Gorstian. Locally, GCR sites at Mocktree Quarries at Leintwardine to the northwest, at View Edge due north near Craven Arms and at Aymestrey Quarries at the southern end of the Ludlow Anticline also have, like Bow Bridge, Bringewood Group strata in facies indicative of the shelf edge zone (Watkins and Aithie, 1980).

Conclusions

The rock types and fossils present at Bow Bridge are not especially unusual or rare within the Welsh Basin. Rather, the site owes its significance as a body stratotype locality for the formations of the Bringewood Group. As such it has both national and international importance in stratigraphy and should be conserved.

References



(Figure 5.23) The geology between GCR sites at Bow Bridge and Burrington, in the western part of the northern limb of the Ludlow Anticline (after Holland et al., 1963 and Lawson and White, 1989).