Whitwell Coppice

[SJ 617 021]–[SJ 620 020]

Introduction

Whitwell Coppice is located in the north-east of the type Wenlock area, 2 km NNE of Much Wenlock (Figure 4.27). Although being included within the boundaries of regional geological and mapping surveys of this district (e.g. Whittard, 1928; Pocock *et al.,* 1938), the strata here did not receive detailed attention until the work of Bassett *et al.* (1975; see also Bassett, 1989a). The latter authors recognized the usefulness of the rocks at this site in terms of Wenlock stratigraphy and established here the standard section for the base of the Homerian Stage, which is coincident with the base of its (lower) Whitwell Chronozone, these bases coinciding with that of the *lundgreni* Biozone. All of the strata exposed belong to the middle part of the Coalbrookdale Formation (Apedale Member).

Description

The section consists in particular of exposures in the banks of a small side-stream together with those in the north-westerly flowing tributary of Sheinton Brook, into which the side-stream flows (Figure 4.29). At the junction of the side-stream and tributary there is a small, 1.5 m high waterfall. The Coalbrookdale Formation here consists of olive to grey-green, blocky, thinly-bedded mudstones which dip very gently east at about 2–3°. In the south bank of the side-stream, at the S-shaped bend near where it runs into the tributary of Sheinton Brook [SJ 6192 0204], occur *Monograptus flemingii, Pristiograptus dubius, Cyrtograptus ellesae* and *Cyrtograptus* sp. of the *ellesae* Biozone, Sheinwoodian Stage. About 1.5 m stratigraphically higher in the sequence, on a small bend some 15 m upstream [SJ 6193 0204], the north bank of the side-stream has yielded *Cyrtograptus lundgreni, M. flemingii, P. dubius, Dendrograptus* sp. and *Cyrtograptus* sp. indicative of the *lundgreni* Biozone (Bassett *et al.,* 1975). The base of the *lundgreni* Biozone and of the Homerian Stage is drawn in this north bank immediately below the occurrence of this faunal assemblage. Orthoconic nautiloids occur in the section as well as graptolites (Bassett *et al.,* 1975).

In the tributary to Sheinton Brook, further graptolite exposures are known. The following species have been recovered from localities 60–250 m downstream from the entrance point of the side-stream, in strata of late Sheinwoodian age: *M. flemingii, P. dubius, Cyrtograptus* sp., *Pristiograptus* sp. and *C.* ex gr. *ellesae.* In the tributary 30–75 m upstream from the side-stream confluence, in earliest Homerian age strata, C. *lundgreni, M. flemingii* and *P. dubius* occur. The trilobite *Dalmanites* has also been recorded from this tributary (Pocock *et al., 1938*).

An abundant acritarch microflora is also known from the side-stream and the tributary to Sheinton Brook, numbering at least 33 genera and 66 species (Downie, 1959; Swire, 1993); these include species of *Micrhystridium, Baltisphaeridium, Veryhachium, Domasia, Ammonidium, Leiofusa* and *Leiosphaeridia.* The chitinozoans *Cingulochitina* and *Margachitina* also occur.

Interpretation

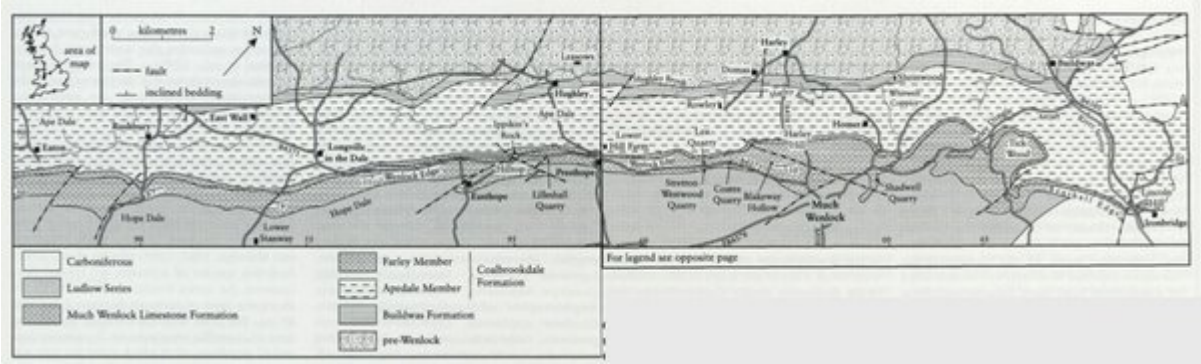
Quiet, low-energy conditions on the most distal part of the shelf prevailed during deposition of the fine-grained carbonate muds of the Apedale Member, Coalbrookdale Formation (Bassett, 1974a, 1989a; Holland, 1992). These muds contain a fauna assignable to Benthic Assemblage (BA) 6 of Boucot (1975).

Whitwell Coppice forms one of the network of sites which are stratigraphically linked to provide more or less complete coverage for the Wenlock Series in its type area. The upper Sheinwoodian–lower Homerian strata it includes succeed those of the lower Sheinwoodian Buildwas and Coalbrookdale formations present in the Hughley Brook site and preface the upper Sheinwoodian–lower Hornerian rocks belonging to the Coalbrookdale Formation of Eaton Track.

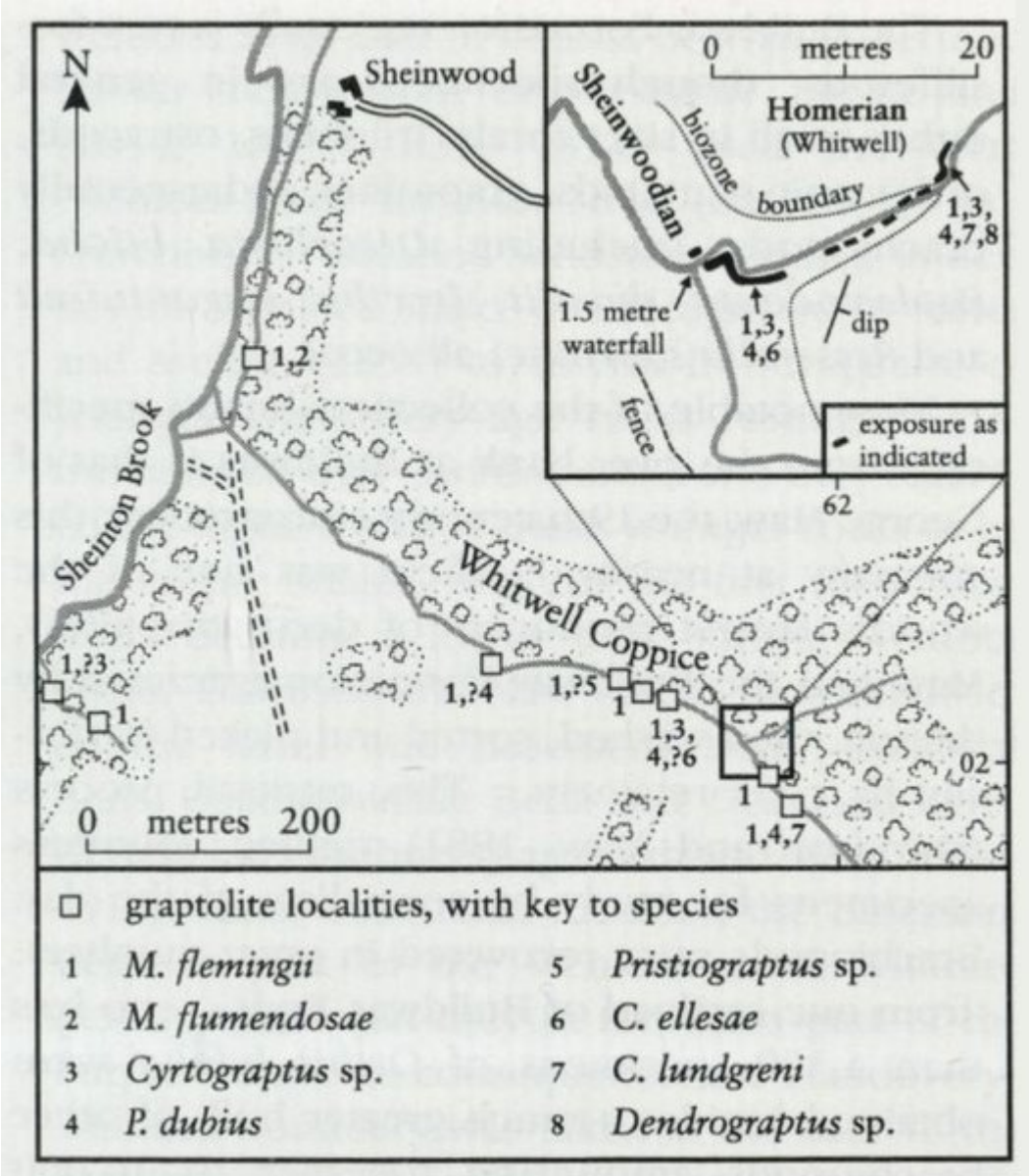
Conclusions

The strata in Whitwell Coppice are of late Sheinwoodian to early Homerian age and belong to the Apedale Member, middle Coalbrookdale Formation. They were deposited in an outermost platform, open marine setting. In terms of Wenlock stratigraphy this is an internationally important site. It is the designated section for the base of the Homerian Stage, coincident with the base of the Whitwell Chronozone and with the boundary between the *ellesae* and *lundgreni* graptolite biozones. It is thus of global chrono- and biostratigraphical significance for rocks of mid-Silurian age.

References



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



(Figure 4.29) Whitwell Coppice, Ape Dale, Shropshire. Location of the standard section for the base of the Homerian Stage, coincident with the base of the Whitwell Chronozone, together with the graptolites recorded from strata above and below this base (after Bassett, 1989a).