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# Hughley Brook

[SO 5688 9839]

## Introduction

Hughley Brook flows along Ape Dale in Shropshire, below the scarp of Wenlock Edge in the type area for the Wenlock Series. Occasional exposures occur in the stream bed and in small river cliffs on the outsides of meanders. These include small exposures of the upper beds of the Hughley Shales (= Purple Shales of some authors), of Telychian age, and of the Buildwas Formation, of Sheinwoodian (lower Wenlock) age. By far the most important locality is situated 0.5 km north-east of Hughley Church and 200 m south-east of Leasows Farm (Figure 4.28), where the international stratotype for the base of the Wenlock Series has been defined (Bassett *et al.*, 1975). This locality is dealt with in detail in the Wenlock chapter of this volume and only the Llandovery part of the section is briefly considered here.

## Description

Small exposures of the upper beds of the Hughley Shales occur intermittently in the stream, for example at [SO 5658 9830], where blocky purple mudstones and purple shales with persistent and impersistent grey layers can be seen in a low river cliff. At the stratotype section [SO 5688 9839], the uppermost 2 m of the formation were divided by Bassett *et al.* (1975) into four units:

D. Green mudstone, with an impersistent hard calcareous siltstone 15 cm below the top of the formation	60 cm
C. Hard calcareous siltstone	8 cm
B. Purple and green mudstone	32 cm
A. Purple and green mudstone with thin impersistent calcareous sandstone bands	seen to 1m

Brachiopods are diverse and common in the upper 10 m of the Hughley Shales, and trilobites, corals, crinoids, bryozoans, orthocones, gastropods and bivalves also occur; graptolites have not been recorded. Microfossils are very abundant and very diverse in the Llandovery beds at the stratotype section (Mabillard and Aldridge, 1982, 1985). Several thousand specimens of arenaceous foraminifera have been recovered, with assemblages dominated by *Ammodiscus exsertus*, and the diverse ostracod fauna includes the characteristic species *Craspedobolbina (Mitrobeyrichia) hipposiderus*. Acritarchs, prasinophyte algae and chitinozoans are also abundant, with the base of acritarch biozone 5 (of Hill, 1974) identifiable 15 cm below the base of the Wenlock Series. Conodonts from the Hughley Shales in Hughley Brook include *Pterospathodus celloni* and *Astropentagnathus irregularis* at [SO 5658 9830]; at the stratotype section only the uppermost part of the *P. celloni* conodont biozone occurs, with the base of the succeeding *P. amorphognathoides* Biozone recognizable 65 cm below the Llandovery–Wenlock boundary in unit C. The microfossil residues also contain scolecodonts, miospores (*Ambitisporites* sp.) and rare thelodont dermal denticles.

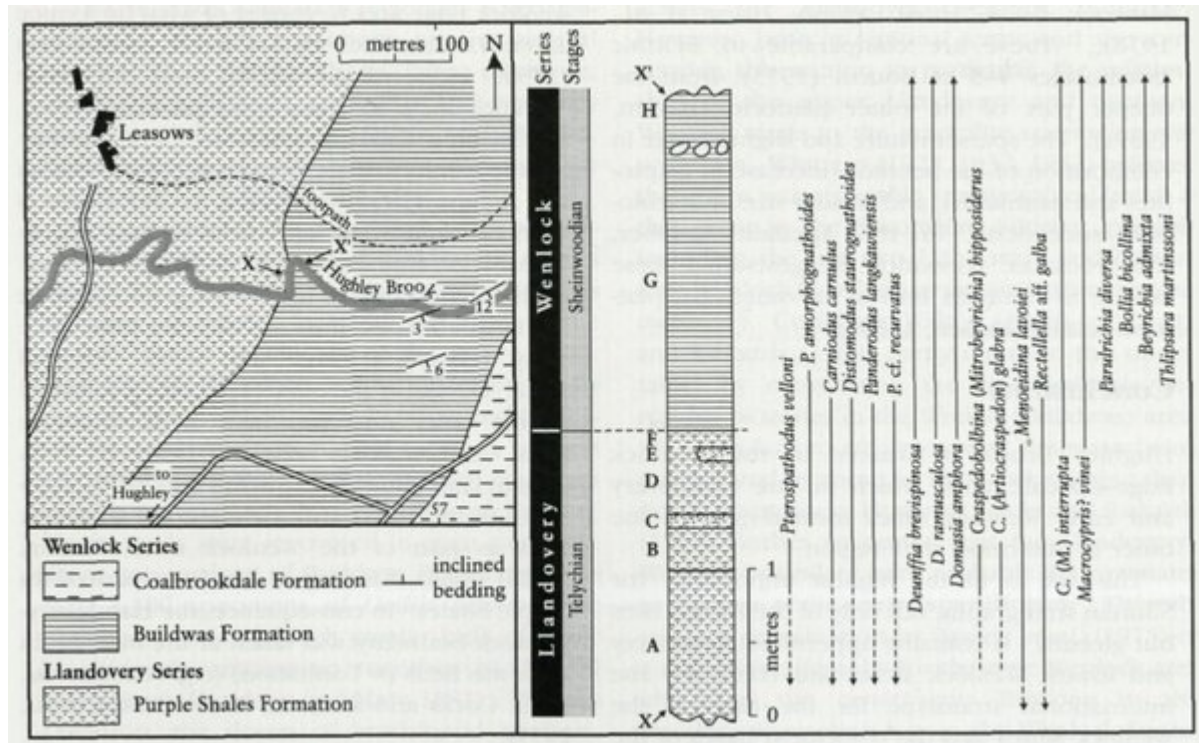
## Interpretation

The Hughley Shales were deposited in an offshore shelf setting on the western margin of the Midland Platform. Ziegler *et al.* (1968b) recorded a *Clorinda* benthic community (= Benthic Assemblage 5 of Boucot, 1975), reflecting the relatively deep water environment. The wide diversity of macrofossils and, particularly, microfossils provides a good basis for local and international correlation of these latest Llandovery strata.

## Conclusions

This is a site of major international importance as the stratotype locality for the base of the Wenlock Series (see the Wenlock chapter of this volume). The same boundary level marks the base of the Sheinwoodian Stage and of the Buildwas Formation. The lower 2 m of the section, below the Llandovery–Wenlock boundary, displays typical strata of the uppermost Hughley Shales, and contains a diverse macrofauna and a very wide variety of microfossils. Other small exposures in the vicinity of the stratotype section provide evidence of the lithology and biota of strata lower in the formation. The locality is frequently visited by national and international specialists and has the highest conservation priority.

## References



(Figure 4.28) Hughley Brook, Shropshire. Location and summary section for the stratotype base of the Wenlock Series, Sheinwoodian Stage and the Buildwas Formation, with the ranges of some important microfossil species used in correlation (after Bassett, 1989a).