

COUNTY: SHROPSHIRE

SITE NAME: BULLHILL BROOK

DISTRICT: SHREWSBURY AND ATCHAM DISTRICT

Status: Site of Special Scientific Interest (SSSI) notified (Under Section 28 of the Wildlife and Countryside Act), 1981 (as amended).

Local Planning Authority: Shrewsbury and Atcham District Council

National Grid Reference: SJ 5548 0168–SJ 5546 0141      Area: 0.31 ha.

Ordnance Survey Sheet 1:50,000: 126      1:10,000: SJ 50 NE

Date Notified (Under 1981 Act): 21 July 1998

Other Information:

A new site. A Geological Conservation Review (GCR) site.

Description and Reasons for Notification:

The site consists of a stream section approximately 200 metres long in Bullhill Brook, about 8 kilometres north west of Much Wenlock.

The exposures in Bullhill Brook lie within the Arenaceous Beds, forming the uppermost division of the Shineton Shale Formation of the Tremadoc Series. The Arenaceous Beds belong to the uppermost part of the *Shumardia salopensis* Biozone, and consist of a series of laminated or micaceous shales interbedded with seams of grit or sandstone. The latter show flute and prod marks on their basal surfaces, indicating that they originated as turbidites. Bullhill Brook is the only site where a fossil fauna has been recovered from the Arenaceous Beds.

The Arenaceous Beds contains a rich fauna of exceptionally well preserved trilobites representing the families Diplagnostidae, Metagnostidae, Asaphidae, Cheiruridae, Olenidae, Orometopidae, Remopleurididae and Shumardidae. Several of the trilobite species are new and the types originate from this site. The fauna also contains five genera of calcichordates including a new genus, *Prochauvelicystis*, and *Anatifopsis*, a new genus of eocrinoid. Inarticulate brachiopods also occur.

The trilobite genera consist of widespread taxa, and as such are typical of an outer shelf fauna. However the absence of any planktonic fauna in the form of graptolites indicates that these beds may have been deposited in a basin largely cut off from oceanic circulation. The relative abundance of olenid trilobites at some levels indicates periodic low oxygen concentrations in the water. The calcichordates and shumardiid trilobites were both adapted for semi-infaunal feeding, indicating that the muds were rich in organic material.

This site is important not only for its fauna, but because it represents the youngest rocks of Tremadoc Series age east of the Church Stretton Fault complex, and indicates that shelf margin conditions penetrated onto the Midland Craton at this time. This is an important site for stratigraphical and palaeogeographical studies of the Lower Ordovician in Britain.