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# Coundmoor Brook, Evenwood

[SJ 5549 0152]

## Introduction

This site is the only locality at which the Arenaceous Beds Member of the Shineton Shale Formation is substantially fossiliferous and its reference to the *salopiensis* Zone can be established.

In their account of the Shineton Shales, Stubblefield and Bulman (1927, p. 114) described the highest division that they recognized as the Arenaceous Beds'. They found very few fossils, but inferred that the unit correlated with the *sedgwickii* Zone of the highest Tremadoc Slates in North Wales (see site report for Y Garth) and with the *Apatokephalus serratus* Zone in Scandinavia. They considered that the Arenaceous Beds showed evidence of shallowing of the Shineton Shale basin of deposition.

In 1991, however, Fortey and Owens announced the finding of a new fauna from the Arenaceous Beds (which they treated as a member of the Shineton Shale Formation) and showed that, although it differs from the fauna from Sheinton Brook, it is likewise referable to the *salopiensis* Zone.

## Description

The best section of the Arenaceous Beds Member is in the banks of Coundmoor Brook, south of Bullhill Cottage, Evenwood (Figure 7.10). At the downstream end of the section the base of the Arenaceous Beds is taken at a sandstone bed that overlies shales typical of the Shineton Shales Formation. Passing upstream over a gap in the section, the principal exposure of the Arenaceous Beds consists of sandstones and mudstones dipping south at 20–25°, which, after another gap in the succession, are inferred to dip under the basal unconformity of the Hoar Edge Grit of the Caradoc Series (see site report for Coundmoor Brook, Harnage, Chapter 10).

According to Fortey and Owens (1991b), the sandstone beds include turbidites up to 10 cm thick, some of which show complete Bouma cycles; the bases may show flute marks and the basal divisions may be graded. Other sandstones are cross- or parallel-laminated and some are micaceous. Bioturbation is prevalent. The mudstone interbeds are silty or shaly and resemble beds typical of lower divisions of the Shineton Shales.

Certain shaly intervals contain a well-preserved fauna of lingulate brachiopods, the bradoriid arthropod *Beyrichona* cf. *triceps* Matthew ((Figure 7.9)c; see Williams and Siveter, 1998), an eocrinoid, five genera of 'carpoid'-like animals, of which one, the cornute *Prochauvelicystis semispinosa*, was described by Daley (1992a); and Fortey and Owens (1991b) described nine species of trilobites, including *Geragnostus callavei* (Raw), *Litagnostus meniscus* Fortey and Owens, *Asaphellus homfrayi* (Salter), *Leptoplastides salteri* (Callaway), *Skljarella cracens* Fortey and Owens, *Apatokephalus sarculum* Fortey and Owens, *Pseudokainella impar* (Salter) and *Shumardia* (*Conophrys*) *salopiensis* Callaway.

## Interpretation

Fortey and Owens (1991b, p. 439) argued that the Arenaceous Beds show no evidence of substantial shallowing towards the top of the Shineton Shales Formation, and in this respect the unit differs from the Habberley Formation, which overlies the Shineton Shales in the Shelve area (see Graham's Moor site report). The presence of undisturbed moults of trilobites and articulated 'carpoids' in the shaly beds indicates that deposition continued in quiet conditions below wave base. The sea floor was normally-oxygenated and the prevailing substrate was soft mud.

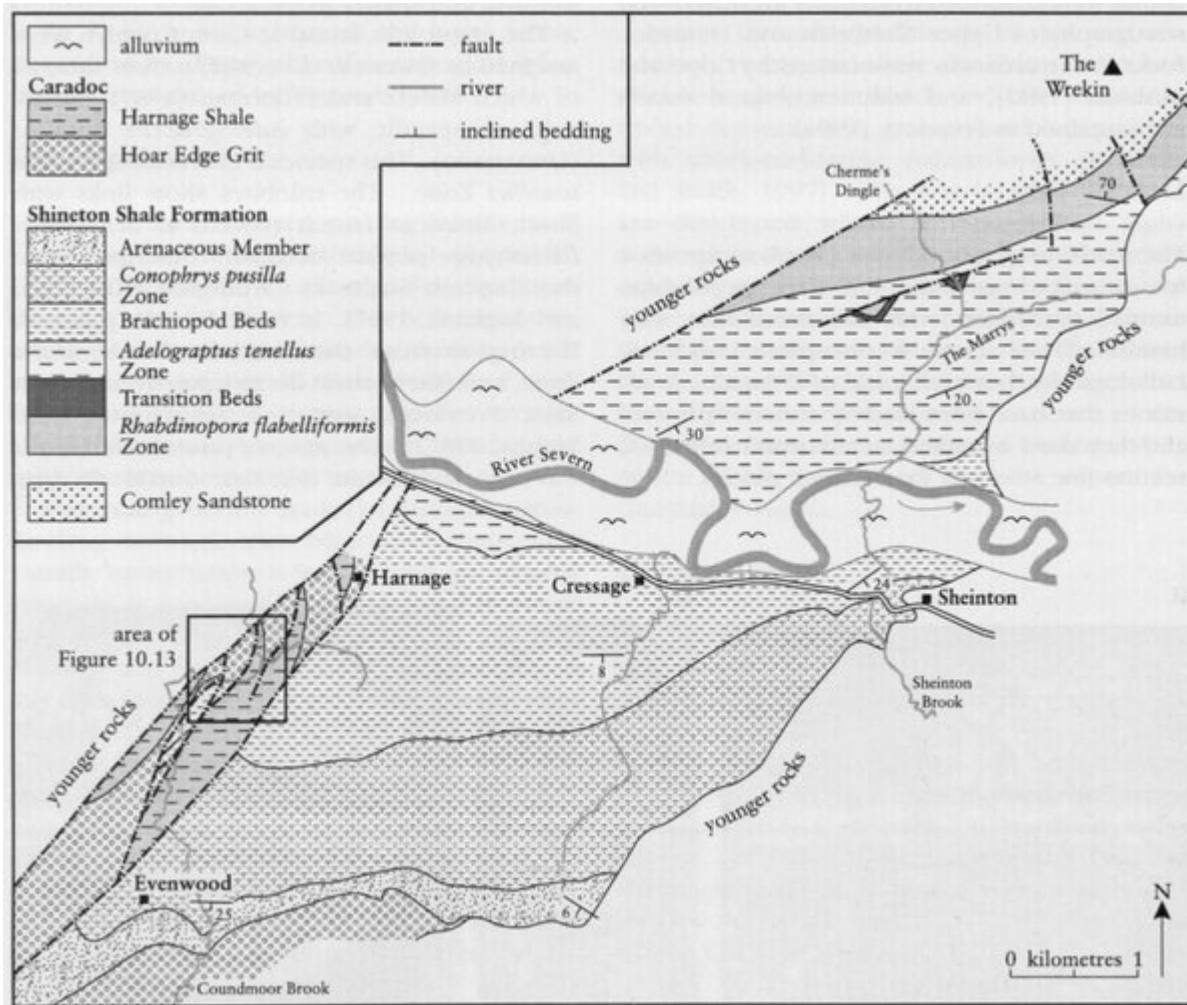
The development of turbidites does, however, indicate a change in sedimentary environment compared with the underlying divisions and may account for the differences in the fauna: the presence of the 'carpoids' and echinoderms and the abundance of trilobite genera that are rare or unknown from Sheinton Brook.

The trilobite fauna has species in common with that of the *salopiensis* Zone and is referred to the same zone: *S.(C.) salopiensis* itself, *A. homfrayi*, *L. salteri* and *G. callavei* are well known from Sheinton Brook, and *Pseudokainella impar*, though not previously recorded from the Shineton Shales, is known from the *salopiensis* Zone in North Wales. *Leiagnostus* and *Skjarella* are common at Coundmoor Brook, yet neither is recorded from lower in the Shineton Shales.

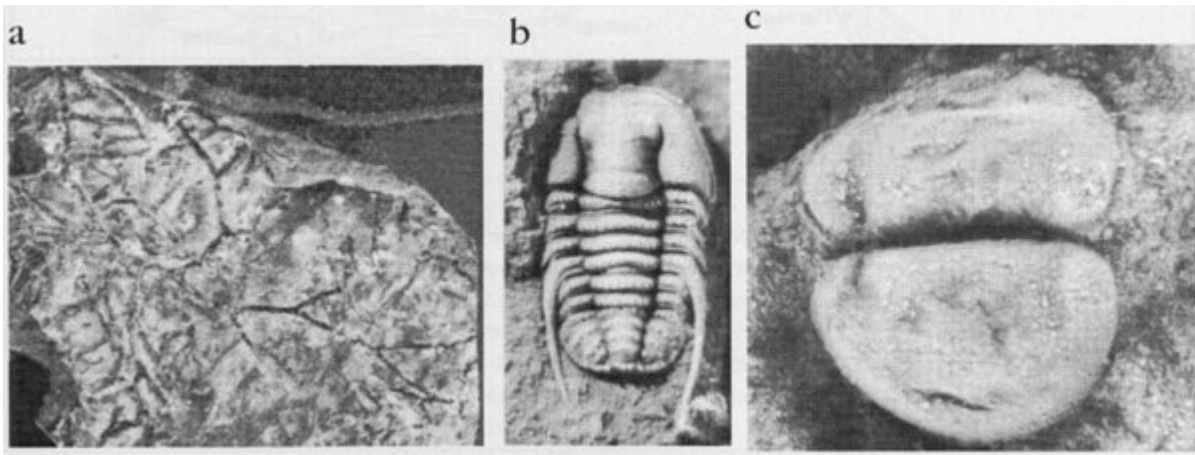
## Conclusions

This site uniquely shows a rich fauna in the uppermost division of the Shineton Shales. Palaeogeographically it shows that the depositional basin of the Shineton Shales continued to be deep in the Wrekin area almost to the end of the Tremadoc epoch.

## References



(Figure 7.10) Geological map of the Shineton Shales of the Wrekin district, after Stubblefield and Bulman (1927, pl. 5). Coundmoor Brook includes the Tremadoc GCR site south-east of Evenwood and the type Harnage Shale locality south-west of Harnage (Chapter 10).



(Figure 7.9) Fossils from Tremadoc sites. (a) *Adelograptus tenellus* (Linnarsson), x 3, Cwm Crymlyn. (b) *Shumardia* (*Conophrys*) *salopiensis* Callaway, x12, Sheinton Brook. (c) *Beyrichona triceps* Matthew, x 25, Coundmoor Brook, Evenwood.