
Webster's Claypit

Highlights

Webster's Claypit is the only available exposure of alluvial plain deposits of the Enville Formation, and is the best British site for Upper Palaeozoic *Walchia*-like conifers remains.

Introduction

This is an extensive exposure of part of the Enville Formation in the Warwickshire Coalfield, on the west side [SP 341 806] of Stoney Stanton Road, Great Heath, Coventry, West Midlands. A brief description of the geology here, together with a lithostratigraphical log, is given by Besly (1988).

Description

The exposed sequence is about 28 m thick, and shows strata formed in a distal alluvial plain setting (Figure 7.19). They are predominantly sandstone sheets and channel-fills, separated by intervals of red mudstone. The sandstones have well developed primary current lineations and sole structures, with very little cross-lamination. Emergent conditions can be identified at several levels in the section, through the presence of rain-drop pits, desiccation cracks and rill marks. The sandstones would thus seem to represent intermittent and short-lived bouts of sedimentation, in what Besly (1988) interprets as an ephemeral fluvial setting.

The only fossils reported from here are branches of conifers, preserved on the weathered surfaces of the sandstones (Vernon, 1912, pl. 59, fig. 10; see also Dix, 1935). Vernon identified them as *Walchia imbricata* Schimper, but as pointed out by Visscher *et al.* (1986) this is a poorly defined taxon. The Coventry material is in clear need of revision. For many years, no new specimens had been reported. Recently, however, H. Williams (pers. comm., 1989) found some further conifer remains at this site on large blocks of sandstone. Unfortunately, the blocks were too large to move and, on his return, they had been destroyed.

Interpretation

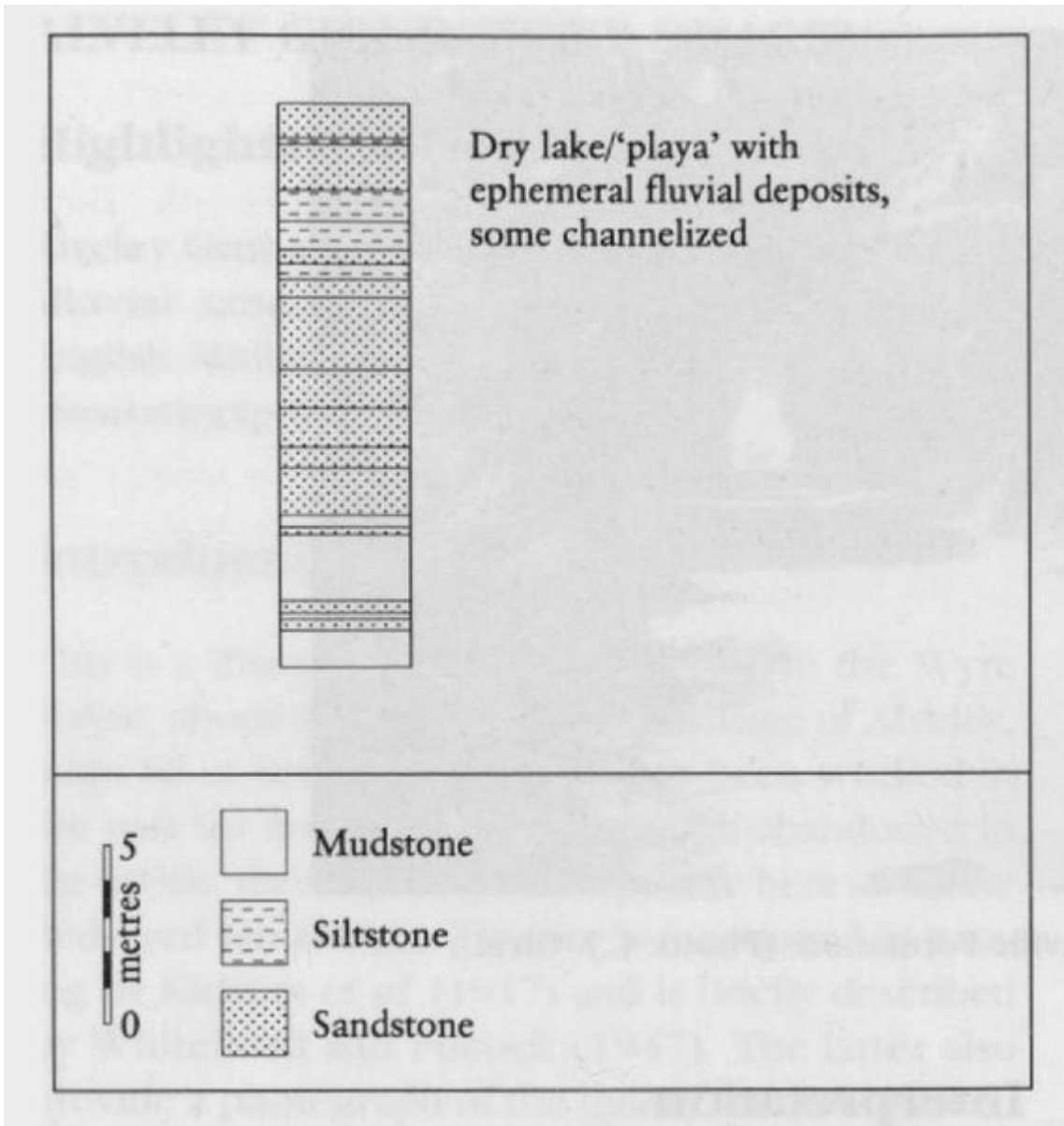
Although widely distributed in the English Midlands, this is the only known exposure of the Enville Formation in what Besly (1988) terms the ephemeral fluvial association. The sedimentology suggests that this association was formed in an alluvial-plain setting, in which most of the discharge was concentrated in large flood-events. It contrasts with the more conglomeratic facies of the alluvial fan association, such as seen at Gospel End Road Cutting, which is normally associated with the Enville Formation. The latter association is more localized and represents a more proximal position within the delta system, but is less vulnerable to erosion and thus tends to outcrop more often.

This is also the best known British site for Upper Palaeozoic *Walchia*-like conifers. At one time, such fossils were thought to be strong evidence of a Permian age for the beds (e.g. Dix, 1935). However, it is now accepted that they are merely an indication of drier substrates, and that conifers are now well documented from strata as low as the mid-Westphalian (see Lyons and Darrah, 1989, for a review). Their presence in the alluvial sediments of the Enville Formation thus supports the sedimentological evidence, that the Enville Formation represents significantly drier conditions than the Productive Coal and Halesowen formations.

Conclusions

Webster's Claypit is the only available exposure of sandstones of the Enville Formation, about 305 million years old. They are probably the remains of alluvial plain deposits laid down in relatively dry, possibly sub-desert conditions. This is also the best site in Britain for fossils of Late Palaeozoic *Walchia*-like conifers.

References



(Figure 7.19) Enville Formation (distal alluvial facies association) exposed at Webster's Claypit. Based on Besly (1988, fig. 15.13b).