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# Jumble Coppice

## Highlights

Jumble Coppice is an excellent exposure of fossiliferous shales of the Marsdenian *Bilinguites superbilinguis* Zone in the Central Province.

## Introduction

This is an exposure on the left bank of Heathy Lea Brook [SK 268 721], on the northern edge of Chatsworth Park, 11 km west of Chesterfield, Derbyshire. Exposed here are the shales that lie between the Chatsworth Grit and Ashover Grit formations. The geology is described by Smith (1967) and Smith *et al.* (1967).

## Description

### Lithostratigraphy

About 10 m of shales are exposed here, which, from their field relationships, clearly lie between the Chatsworth and Ashover grits. They are mostly medium to dark grey, but there are also two layers of almost black shales, one at the base of the exposed section, and the other 5.5 m higher. These darker layers are marine bands.

### Biostratigraphy

The fossil faunas of the two marine bands are listed by Smith *et al.* (1967). The lower band contains *Bilinguites superbilinguis* Bisat, *Homoceratoides fortelirifer* Ramsbottom, *Cancelloceras* spp., *Dunbarella speciosa* Jackson and *Caneyella* sp. This clearly belongs to the *B. superbilinguis* Subzone. The upper band has yielded a fauna of the *Verneuilites sigma* Subzone, including *V. sigma* (Wright), *Cancelloceras* sp., *Dunbarella* sp. and *Caneyella rugata* Jackson. Thus, both sub-zones of the Marsdenian *B. superbilinguis* Zone ( $R_{2c}$  in the traditional classification) are represented here.

## Interpretation

This locality is a good example of upper Marsdenian shales belonging to the *B. superbilinguis* Zone, and has yielded faunas of both of its component subzones. It duplicates the upper part of the sequence seen at Hodge Clough, but is much better exposed and is more fossiliferous. Rake Dike also shows the lower part of the zone, but only the lower subzone, and then only as a brackish assemblage with inarticulate brachiopods. This site is thus of considerable importance for completing the network of sites showing Marsdenian fossil-bearing shales.

## Conclusions

Jumble Coppice has an important exposure of fossiliferous shales of Marsdenian age, just over 317 million years old. They belong to what geologists refer to as the *Bilinguites superbilinguis* Zone, and are particularly important for fossils from the lower part of the zone.

## [References](#)