
Pule Hill

Highlights

Pule Hill is the best known exposure of the Gracilis and Bilinguis marine bands in Europe.

Introduction

This stream section and disused quarry [SE 033 103], 2 km SW of Marsden, 10 km WSW of Huddersfield, West Yorkshire, shows part of the upper Millstone Grit of the Huddersfield Basin (Figure 9.14). The palaeontology, which is the main interest here, has been described by Bisat (1924).

Description

Lithostratigraphy

The exposed sequence here is about 50 m thick. The lower 20 m are shales, mainly medium to dark grey, but with two darker bands representing marine deposits. The overlying strata are massive or coarsely cross-bedded sandstones, belonging to the Pule Hill Grit Formation. This is almost certainly a lateral equivalent of the Heyden Rock Formation to the south, and is probably part of a sheet-delta complex that prograded over the Huddersfield Basin from the north during the middle Marsdenian.

Biostratigraphy

Both marine bands here are reported to contain *Anthracoceras* sp., *Dunbarella* sp. and *Caneyella* sp. In addition, the lower one yields *Bilinguites gracilis* (Bisat), while the upper one contains *Bilinguites bilinguis* (Salter). The lower band is thus interpreted as the Gracilis Marine Band and the upper band as the Bilinguis Marine Band.

This the type locality for both *B. bilinguis* (Salter) and *B. gracilis* (Bisat).

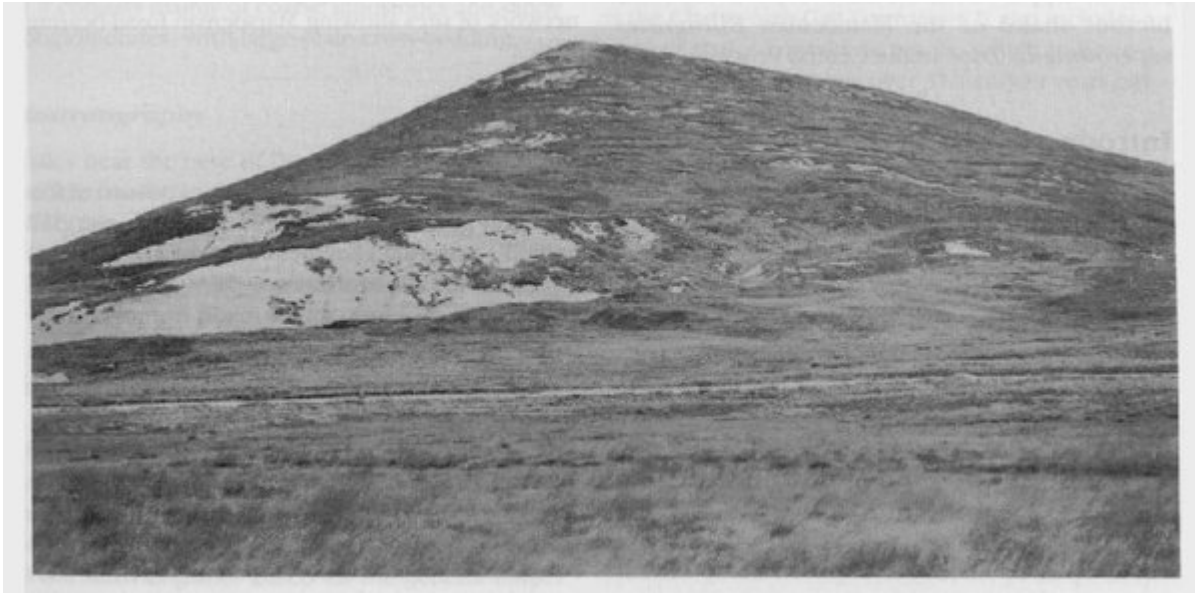
Interpretation

This is historically the best known section through the lower Marsdenian (Ramsbottom, 1981), and was in effect the type for the stage base when it was first proposed by Bisat (1928). It has subsequently been shown that the lowest part of the marine band yielding *B. gracilis* (Bisat) is absent here, and so the stratotype section was moved to Rake Dike and then finally Park Clough. Nevertheless, Pule Hill provides the most extensive known surface exposure of both this and the overlying Bilinguis Marine Band anywhere in Europe. This, together with the fact that it is the type locality for two biozonal index species, makes it a site of considerable palaeontological significance.

Conclusions

Pule Hill is an exposure of marine shales of Marsdenian age (just over 317 million years old). The shales, known as the Gracilis and Bilinguis marine bands have been identified over large areas of Europe, but Pule Hill was where they were first described in detail and is still the most extensive natural outcrop.

[References](#)



(Figure 9.14) Pule Hill. Reproduced by permission of the Director, British Geological Survey: NERC copyright reserved (A4559).