Meidrim Road section

[SN 287 203]–[SN 289 208]

Introduction

Pant-yr-hendre Quarry and the road extending 500 m northwards to the village of Meidrim (Mydrim) provides a section in which horizons from the top of the *murchisoni* Zone to the *gracilis* Zone are exposed. Much of the succession is in a more distal (graptolitic) facies than that cropping out at Dynevor Park, Llandeilo (see site report), and the lower part contains a mixed shelly–graptolite fauna affording correlation between these two facies.

Early descriptions of this section were given by Evans (1906) and by Strahan *et al.* (1909), who recognized the succession, established its nomenclature and listed characteristic fossils. No further descriptions, apart from a brief mention by Evans and Jones (1926), were given until Toghill (1970a) discussed the graptolite fauna and commented on correlation with the Llandeilo sequences at Llandeilo, Builth and Shelve. He noted the abundant occurrence of *Glyptograptus* (now *Hustedograptus*) *teretiusculus* (Hisinger) in the basal Hendre Shales, with sparser occurrences higher in the sequence, and the presence of *Nemagraptus gracilis* (Hall) in the Mydrim Limestone; Toghill rebutted earlier reports of *N. gracilis* within the Hendre Shales. Morris (in Toghill, 1970a, p. 122) suggested that the trilobite association appeared to be from 'the upper part of the Llandeilo Series'. Addison (in Williams *et al.,* 1972, p. 35), having re-examined the trilobites, ascribed an early Llandeilo age to this fauna and also noted that *N. gracilis* had been identified by Toghill in his collections from exposures of the Hendre Shales near Ty Newydd Farm, 5 km WNW of Carmarthen, at horizons well below the level of the Mydrim Limestone, in association with the trilobite *Lloydolithus boydii* (Murchison). The latter is characteristic of the Lower Llandeilo Flags of the Llandeilo area. As a consequence, it was considered that much of the type Llandeilo at Llandeilo was of *gracilis* Zone age, as discussed further by Bergström *et al.* (1987, p. 303). The Ty Newydd occurrence of *N. gracilis* has been confirmed recently by Dr R. Bettley, who notes (pers comm., March 1998) that equivalent strata in the Meidrim Road section suffer from a very strong cleavage, which makes all the fauna difficult to identify, although thin graptolite stipes do occur. He states that 'correlation of the identifiable shelly species at Meidrim with those at Ty Newydd indicates very strongly that *N. gracilis* occurs in the middle Hendre Shales'. Thus, Toghill's (1970a) contention that *N. gracilis* does not occur below the Mydrim Limestone is now considered incorrect.

As well as having a mixed shelly–graptolitic fauna, the section in Pant-yr-hendre Quarry and adjacent exposures shows a continuous late Llanvirn–early Llandeilo sequence and is therefore a potential stratotype for the definition of the base of the latter (Fortey *et al.,* 1991, p. 16), whether it is regarded as a series or, as in this work, adopted as a stage (see Fortey *et al.,* 1991, 1995).

Description

In Pant-yr-hendre Quarry, the beds dip north at about 45° (Figure 8.19). The oldest strata are present at the south of the quarry, where a bedding plane of the *murchisoni* Shales crops out immediately below the Asaphus Ash, a variably silicified ashy deposit 21 m thick, which is the horizon in which the quarry was opened. The ash has yielded abundant specimens of the asaphid trilobite *Basilicus tyrannus* (Murchison), from which it takes its name.

At the northern edge of the main quarry, the ashes pass up into a similar thickness of flaggy, bedded siltstones and shales, which have been called 'Llandeilo Flags'. They have yielded trilobites including *Basilicus* sp., *Whittardolithus* cf. *inopinatus* (Whittard) and *Marrolithus* sp., but according to Dr R. Bettley (pers. comm., March 1998) they are not equivalent to the Lower Llandeilo Flags at Llandeilo since they do not contain *Lloydolithus lloydii;* they are probably equivalent to the Ffairfâch Grits. These beds in turn pass upwards into the basal Hendre Shales, dark-grey shales with sporadic ashy siltstone horizons that have yielded abundant graptolites dominated by *H. teretiusculus* and trilobites including *W. inopinatus, Cnemidopyge* sp., *Marrolithus inflatus* Williams and *Spirantyx calvarina* Whittard. Younger horizons in the Hendre Shales are exposed in the road section to the north of the quarry. The lower 40 m have yielded *Lloydolithus lloydii* e.g. at [SN 2882 2052], suggesting correlation with the Lower Llandeilo Flags, and higher beds e.g. at

[SN 2887 2060] contain *Marrolithus* and *Marrolithiodes* species, indicating correlation with the Middle Llandeilo Flags.

The contact between the Hendre Shales and Mydrim Limestone occurs at some level beneath the road at the cross-roads in Meidrim (Figure 8.19). The Mydrim Limestone is underlain by buff shales with abundant *Leptograptus validus* Elles and Wood and thin calcareous bands (Dr R. Bettley, pers. comm., March 1998). The Mydrim Limestone itself crops out in the side of the road near the post office in Meidrim; it is very impure, rather flaggy and not here very fossiliferous, but it has yielded trinucleid trilobites, namely *Marrolithus favus* (Salter) at the base and *Telaeomarrolithus* near the top.

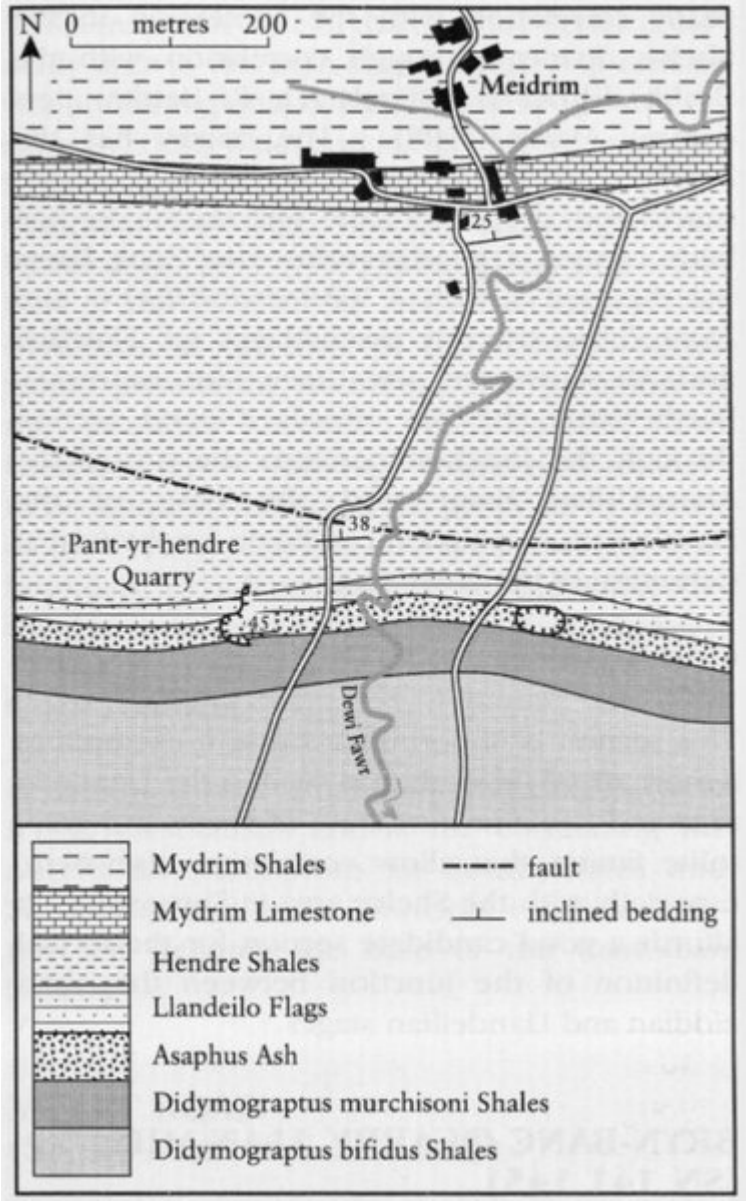
Interpretation

The facies present in this section is of a more distal origin than that seen in the Llandeilo area, and the trilobite and graptolite faunas afford ready correlation with the succession in the Shelve district, although correlation with the Builth district is difficult (Dr R. Bettley, pers comm., March 1998). The quarry has the *Basilicus tyrannus fauna* immediately above the *murchisoni* graptolite zone, and the succeeding beds contain a good *teretiusculus* Zone fauna interbedded with *Whittardolithus* and *Marrolithus* trilobite assemblages (cf. Ffairfâch and Meadowtown sites (see site reports)). Furthermore the site affords a good section through the junction between the top of the Abereiddian Stage and the base of the Llandeilian; it is a good candidate for the formal definition of the latter stage.

Conclusions

This section is important because it exemplifies a more distal facies than is seen in the Llandeilo area and contains a mixture of shelly and graptolite faunas that allow correlation elsewhere, especially with the Shelve area in Shropshire. It affords a good candidate section for the formal definition of the junction between the Aber-eiddian and Llandeilian stages.

References



(Figure 8.19) Geological map south of Meidrim, after Addison (in Bassett et al. 1974, fig. 6).